

Gardening Improv'd:

CONTAINING

I. THE CLERGYMAN'S RECREATION : S H E W I N G

The Pleasure and Profit of the Art of Gardening. Wherein is treated, 1. Of preparing the Ground for Planting and Sowing. 2. Of the Method of planting Fruit-Trees in Gardens. 3. Of the most agreeable Disposition for a Garden. 4. Of Nurseries. 5. Of Pruning. 6. Of Grafting and Inoculating. 7. Of the proper Disposition of Trees against a Wall, the best Kinds of each, their Order and Time of ripening, &c.

II. THE GENTLEMAN'S RECREATION : O R,

The Second Part of the Art of Gardening improved. Containing several New Experiments and Curious Observations relating to Fruit-Trees, particularly a new Method of Building Walls with Horizontal Shelters. Illustrated with Copper Plates.

III. THE FRUIT-GARDEN KALENDAR :

Teaching in order of Time what is to be done therein every Month in the Year. Containing several new and plain Directions, more particularly relating to the Vine.

Written by *John Lawrence*, M. A. Rector of *Yelvertoft* in *Northamptonshire*.

IV. THE LADY'S RECREATION : O R,

The Art of Gardening farther improved. Containing the best Ways of propagating all Sorts of Flowers, Flower-Trees, and Shrubs, &c. The most commodious Methods for Erecting Green-Houses, &c. Of Plantations in Avenues, Walks, Wilderesses, &c. With the Gardener's compleat Kalendar: Or, The Art of managing both the *Fruit-Garden* and *Kitchen-Garden* every Month in the Year. By *CHARLES EVELYN*, Esq;

With an *Appendix* explaining the Motion of Sap, and Generation of Plants. And a new Invention for the more speedy Designing of Garden-Platts. By *Richard Bradley*.

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14-142

THE
Clergy-Man's Recreation:

Shewing the
Pleasure *and* Profit
Of the ART of
GARDENING.

*Quare agite ô proprios generatim discite Cultus,
Agricola, fructusque feros mollite colendo.*

Virg. Georg.

By JOHN LAWRENCE, A. M.
Rector of Yelvertoft in Northamptonshire, and some-
time Fellow of Clare-Hall in Cambridge.

The Sixth Edition.

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G. Grierson, at the Two Bibles in Essex-street,
1717.

Mr. LINTOTT;

SO far as I am a Judge, there is more of the Art of Gardening in this little Tract, than in all I have yet seen on this Subject.

March 15.
1717.

L. Loyd.

7-11-17

THE PREFACE.

GARDENING being of late Years become the general Delight and Entertainment of the Nobility and Gentry, as well as Clergy of this Nation: It is not with great Difficulty that I have comply'd with the Solicitations and Desires of many of my Friends, to communicate to the Publick some of that Skill which I have acquir'd therein, by the Observations and Experience of above Twenty Years.

I am not so vain as to think I am able to teach the great Masters in this Science any new Discoveries concerning the Management of the Orangerie, or the Meloniere; or to invent any new and costly Ways for laying out Platforms, and enlarging Gardens: This perhaps has been already done to a Fault; and 'tis this Excess which has ruin'd brave Estates, and consequently has made others afraid of engaging in it. For I could never be of the Opinion of a certain Noble Person, who spake very contemptibly of his own Garden, to one that admir'd it; Alas! (says he) This is a small inconsiderable Place, of only Thirty Acres; whereas my Lord—— has above Fourscore.

If once we come to vye with one another, either for exquisite Niceness and Finery, or multitudes of Acres,

The P R E F A C E.

Acres, one may easily guess what the consequence of that will be. Now therefore the Design of this is neither to teach the Management of Exotick Plants for Green-Houses, nor to recommend anything over-curious or costly; but only to lay down such Rules as may make Returns both of Profit and Pleasure: And to recommend the Art of Managing a Garden to those of my own Order, the Clergy; not to make ~~them~~ envy'd by Magnificence, but to make them happy, by loving an innocent Diversion, suitable to a grave and contemplative Genius. I would not be understood as if I thought a Divine might not innocently use many other Diversions; only this I suppose most People will allow, that as there are some Sports and Exercises not suitable to a Divine, so Gardening is a very agreeable and commendable Recreation, viz. Pruning, Planting, Sowing, Grafting and Inoculating, and sometimes digging ad Ruborem, tho' not ad Sudorem. For indeed, of all others, a Clergy-man, whose chief and most constant Business is sitting at his Study, most wants Relaxation, and some moderate Exercise, to preserve Health. For my own part, I must own, that 'tis the best and almost only Physick I take: and if thro' the rigour or wetness of the Season, I am denied the benefit of my Garden for some Days, and labour under Indispositions; God's Blessing, with a warm and Sun shiny Day that invites me out, soon sets me to rights again.

This perhaps is not every ones Constitution; but thus far almost all are agreed, that the Diversions and Amusements of a Garden, with moderate Exercise, are not only most delightful to those that love them, but most wholesom to those that use them. And because it must be supposed to be ignorance of the Times and Seasons, and the not knowing what

The P R E F A C E.

to do in a Garden, when there, as to Planting, Pruning, Grafting, &c. which make so many regardless both of the Pleasure and Profit of this Art; And because I think also that many others have been horribly imposed on, either by the Unskilfulness of the Country Gardeners, or, which is worse, their Knavery, whereby they plant Trees of wrong Sorts on wrong Stocks, or not in a right Method and Season, so as to be almost wholly discouraged by not receiving any Fruit of their Labour and Charge: For this reason I venture to communicate some Observations that I have made, which I conceive may be of use to my Brethren, or such other Gentlemen as desire to have a pleasant and profitable Garden, and yet may want Skill enough themselves to manage it with Success.

I confess, I cannot but with grief look into some Gardens where I find little more than Leaves or half-dead Trees, whilst yet the Owner, it may be, loves a Garden as well as my self, and has impatiently expected the Fruits of it for many Years; and yet has only at last bought his Experience with the loss of all that Time. This I speak as to the choicer sort of Fruit against Walls, where the Disappointment has proceeded from wrong Positions: As for Instance, the Burree-Pear against a North or North-East Wall; or from wrong Stocks, as the Apricot on the ordinary Plum-Suckers; or the being cheated in the sort of Fruit you send for, which is the most common Disappointment of all. And truly this has made me look on with great Compassion, to see Gentlemen thus defeated of their Hopes, almost discouraged against any farther Attempts; because they have already waited so long, even the best (as it is the earliest and most vigorous)

The P R E F A C E.

vigorous) part of their Lives without Success. For a wrong Sort of Fruit, or Fruit upon a wrong Stock, will, it may be, draw you on with Expectation for 4, 5, or 6 Years to taste its Fruit, and then possibly you find with Grief, instead of an old Newington Peach, a dry insipid Nectarine, or instead of a rich French Pear, a gritty Choak-Pear or Warden; or else your Tree being on a wrong Stock, will make a Shift to live 4 or 5 Years, and then die at last. So that in both these Cases, your best and only Remedy is to take them up and plant others; and, it may be, not without the same Fear of being decciv'd again. And yet if they prove what you expect, here must be 3 or 4 Years more before you receive Fruit: And I need not tell any one what a Disappointment it is to lose 8 or 10 Years of the best part of our Lives in tired and fruitless Expectations. If therefore I shall be able in any Measure to remove these Fears from those who would otherwise love these innocent Diversions, and give them better Hopes, I desire what follows may not be thought impertinent or unseasonable, though coming from a Clergy-man.

I have often smild at the Rebukes I have met with from some Gardeners, who hate to be inform'd by a Scholar, or to be turn'd out of their beaten Road by any Body; "What, say they, does this
" Man come and pretend to teach us, to make our
" Masters think we do not understand our Business?
" How should he know what Stocks are best for Trees,
" or how to prune them? It is fitter for him to be
" at his Studies, a making Sermons. So that I
assure you, if the Gentleman has not a great deal of
Courage, he must be content to go on in the old Way,
or very much disoblige his Gardener.

The P R E F A C E.

I am not in the least ashamed to say and own, That most of the Time I can spare from the necessary Care and Business of a large Parish, and from my other Studies, is spent in my Garden, and making Observations towards the farther Improvement thereof. For I thank God, this sort of Diversion has tended very much to the Ease and Quiet of my own Mind; and the Retirement I find therein, by Walking and Meditation, has help'd to set forward many useful Thoughts upon more divine Subjects, as I may perhaps hereafter have Occasion to inform the World. In the mean Time I cannot but encourage and invite my reverend Brethren to the Love of a Garden; having my self all along reap'd so much Fruit from it, both in a figurative and literal Sense.

By the good Providence of God, and the extraordinary uncommon Bounty of a generous Patron, which I always remember with Gratitude, I have been placed where I now am near fourteen Years: And it may not be amiss to relate what Difficulties I have all along laboured under, that others may see what is to be done with Care, even to the worst of Soils.

Adjoining to my House, I found what they used to call a Garden, of about 32 Yards square, mounded round with low Mud-Walls, quite over-run with Couch or Twitch-grass, Nettles and Gooseberry-bushes; and, which was a great deal worse, upon a wet white Clay, lying within half a Foot of the Surface. The earnest Desire I always had to have a Garden, made me look on with Grief; but yet I instantly resolved to be doing something, that no Time might be lost towards getting Wall-Fruit, if possible.

*I was dissuaded by most of my Neighbours, as thinking it a very vain Attempt, and that I should
lose*

THE PREFACE.

lose all my Labour and Charge, as others have done. Not yet discouraged, I resolved to pull down the Mud-wall that faced the South-East, and to build a Brick one in the stead about Nine Foot high, which I did, by the kind help of my Neighbours, the same Summer I came, and sent for my Trees from London in October, and planted the Walls with Apricots, best Pears, Vines, Figs, Plums, Cherries, a Peach and Nectarine. My next Care was to provide a Nursery of all sorts of Stocks for future Planting, as I made room for them.

What Methods I used to give my self any Hopes of Fruit in a Garden, which, with respect to the Soil, was made almost *invita Minerva*, will appear by the following Directions; but I only say here, to encourage my Friends, that in three Years time, if not sooner, I began to taste some of the Fruits of my Labours; the fourth Year I was rewarded with Fruit from almost all of them; and ever since I have had Plenty, even greater than I could reasonably expect, from all the several sorts except the Old Newington, which I most of all suspected by reason of the Soil; tho' even that flourished and bore, but the Fruit was watry and insipid. I have succeeded better in other Sorts since.

As to the Nursery that I formed chiefly from all sorts of Seeds and Stones, I have succeeded so well, that by Grafting and Inoculating thereon, I have for several Years had enough, not only for my own Use in all parts of my Orchard and Kitchen-Garden, but also to oblige my Friends, which is no small part of my Pleasure.

I give these short Hints to shew how adviseable it is when Persons first come to a Living, or an Estate, to begin their Plantations without Doors first, and not, as is usual, fall to Repairs and Alterations within,

The P R E F A C E.

within, to the neglect of the other. What we build or repair, generally speaking, may be finish'd in a Summer, and we enjoy the Conveniences thereof as soon as finish'd, and the Workmen have left you : But you must wait some Years to see the Fruits of your Plantation, and therefore the sooner it is begun the more reasonably you may hope to live to enjoy the Benefit and Pleasure of it.

But because I represented it as a very difficult and hazardous Matter to procure right sorts of Fruit, and upon good Stocks, it may be expected that I should give some Direction and Advice what to do, since it is of so great Consequence to be assured of a skilful as well as a faithful Nursery-Man. To this I only say, that in such a case as this, the best way is, to trust to Men of known Honesty, Skill, and Integrity, such as the late Mr. London and Mr. Wise have hitherto approved themselves to be ; and their Names and Reputation are so well established amongst the Nobility and Gentry, that I hardly think the surviving Person, Mr. Wise, wou'd willingly put a Cheat upon any one that would trust to him. However, I should not do justice to that honest Person, I have so long dealt with, and so often recommended, if I should not take occasion here to say, that of above Five Hundred Fruit-Trees bought of him, by my self and Friends, I do not remember I ever heard that one of them miscarried through his Fault, or proved otherwise than the Kind and Sort that was sent for : His Name is Nicholas Parker, Nurseryman at Strand-in-the-Green in Chiswick-Parish, near London ; where I am well persuaded any Gentleman or other may be punctually and faithfully dealt with, though not known to him.

If any one shall now say, upon sight of this little Treatise, That, as a Clergy-man, I might have employed

The P R E F A C E.

ploy'd my Time much better than to have writ about Gardening ; I answer, That it easily appears a great deal of Time has not been spent in composing it ; indeed only a few leisure Hours in the Winter, for want of Company, by way of Diversion, not at all interfering with, much less interrupting my proper Studies, or the necessary attendance on the Duties of my Parish, which I think ought always to be uppermost, and to lie next the Heart of us the Ambassadors of Christ, who have so great a Trust and solemn a Charge committed to us, as The Teaching others the way of Salvation.

I hope therefore I need not say any thing further by way of Apology, except it be with respect to the Defects and Omissions of this small Treatise ; and These, I hope, will be pardon'd by the great Masters in this Science, as coming from a Clergy-man, who owns he has had greater Things to mind. But if I have said any thing here to perswade those of my own Order to love an agreeable Exercise and Recreation, and have taught them how to make something of Interest and Pleasure of those little Parentheses of their Lives, which most commonly go for nothing ; I shall have gain'd my End, and the Satisfaction I aim at.

THE CONTENTS.

CHAP. I.

Concerning preparing for Planting and Sow-
ing Page
1

Well planting of Trees 4

CHAP. II.

Of the Method of Planting Fruit Trees 6

1. *The different Nature of Soils to be Regarded* 8
2. *The distance Fruit Trees are to be best plan-
ted against a Wall* 9
3. *The Season for planting* 10

CHAP. III.

Concerning the most agreeable Disposition of a
Garden 12

Of Walks 14

CHAP. IV.

Of Nurseries 17

CHAP. V.

Of Pruning 20

1. *The Vine* 24
2. *The* 24

The CONTENTS.

2. The Peach and Nectarine	26
3. The Pear	28
4. The Fig	29

CHAP. VI.

Of Grafting and Inoculating	31
-----------------------------	----

<i>Peaches, Nectarines and Apricots are not</i>	<i>to be</i>
<i>Raised any other way</i>	<i>34</i>
<i>The time for Inoculating</i>	<i>36</i>

CHAP. VII.

Concerning the proper Disposition of Trees against a Wall, the best kinds of each	38
--	----

<i>A Catalogue of the best kinds of Peaches</i>	<i>40</i>
<i>French Pears</i>	<i>41</i>
<i>Grapes</i>	<i>42</i>
<i>Plums.</i>	<i>ib.</i>

THE

exam
Part

THE CONTENTS.

THE Introduction,	page 1.
The Design of this Treatise being to procure Plenty in the easiest and most expeditious Way, the Causes of some common Defects are assigned and proper Remedies afforded,	p. 18
The first general Cause of Barrenness, is a lying too much open to the blasting Winds.	p. 19
The first Remedy for this is to plant Trees for Shelters,	p. 20
The second Remedy is to change the Place and Scituation of the Fruit-Garden,	ibid.
A third Remedy is not to build the Walls too high,	p. 22
A second general Cause of Barrenness,	p. 23
Is the having too much Walling and too many Trees, which, tho' seemingly a Paradox, is proved to be a real Cause.	ibid.
But Two ways of curing this : Either to allow a proportionable Help ; or to reduce the Fruit-Garden to a less Compass. The latter preferred for Two Reasons,	p. 27
To confirm which, Plans are given of only 40 Yards Square, sufficient to furnish any Gentleman's Table with the best Fruit,	p. 28

The C O N T E N T S.

A third general Cause of Barrenness is an unskilful Ordering and bad Management of Fruit-Trees, both in their <i>Planting</i> and <i>Pruning</i> ,	p. 37
Three wrong Methods of Planting,	p. 39
First, Planting too deep. The Remedy,	<i>ibid.</i>
Secondly, Trees too near one another. The Remedy,	p. 40
Thirdly, Against a wrong Exposition,	p. 41
To prevent which last Inconvenience, an exact Meridian Line ought to be found. The Method of doing this described,	p. 43
The Use of it for finding the true Declination,	p. 45
Common Mistakes in <i>pruning</i> Fruit-Trees pointed at ; even the Shape of the pruning Knife shewn to be mistaken,	<i>ibid.</i>
The Reduction of a young Tree practicable.	<i>ibid.</i>
Leaving the Wood-branches of Peach or Appricot too long, a Fault,	p. 49
Good Pruning not only procures Fruit, but makes lasting Trees,	<i>ibid.</i>
Too great Vigour in Pears and Plums to be abated by <i>Plashing</i> or <i>Incision</i> , and sometimes <i>breaking</i> the Branches,	p. 50
These Operations sometimes to be performed on Peaches and Appricots, but to be done with Caution, chiefly in the Spring,	p. 52
A dry Summer makes Trees bear the following Year, and a wet one the contrary.	p. 53
The Art of making Trees bear, is to proportion the Degree of Vigour to the Quantity of Wood. An Essay for making tender Fruits grow in Pots, the Success not yet experienced.	<i>ibid.</i>
A fourth and last general Cause of Barrenness, is Frosts and Blasts in the Spring,	p. 54
The	

The C O N T E N T S.

- The Methods hitherto used by Gardeners to prevent them, proved to be insufficient, p. 55
- A more certain and rational Method proposed :
To make Walls with *Horizontal* Shelters as the best Guard against *perpendicular* Frosts. A Plan whereof is given, p. 57
- Four several Advantages attend this Method of Improvement, p. 58
- Exactness required in the Projection of the Tiles, p. 60
- An odd Phænomenon in freezing Mists explained, *ibid.*
- Concerning the great Use and admirable Qualities of *untry'd Earth*. What is meant by it, p. 61
- No Sort of Composition made with Art can exceed the Richness of this Earth, even the best Asparagus it affords without Dung, which, tho' full of Nitre and Sulphur, hath also many other noxious Juices, which give strong and unfavoury Tastes, p. 62
- Untry'd Earth preferable to Dung for several Reasons, p. 63
- Little said of the Kitchen Garden, because the Subject is already exhausted, p. 65
- A new Method of ordering Frames for Hotbeds, p. 66
- This left with the Curious to be improved, *ibid.*
- A new Method of preparing Stocks for Peaches and Appricots, *ibid.*
- The Propriety of it founded on Experience, p. 67
- The Productions of Fruit from the Seed or Kernel for the most Part worse than the Kind sow'd ; but sometimes better, p. 68
- Two different Accounts relating to that Matter, p. 69
- How

The CONTENTS.

- How reconcilable, and what Use to be made of
them, p. 71
- A convenient Method related of fastening the
Branches of Fruit-Trees on old Stone-Walls,
ibid.
- An useful Instrument described for the safe and
ready transplanting Trees, *ibid.*
- Advifable to plant Vines, if possible, with the Ad-
vantage of a Slope under them, paved with
Brick or Stone. p. 72
- Cutting the Ham cures Crookedness in a Tree,
p. 73
- The golden Pippin improved when planted against
a Wall. *ibid.*
- The Conclusion,

T H E

THE CONTENTS.

Page

THE Introduction 1

CHAP. I.

Concerning Earth, and the most agreeable Composts
for Flowers, &c. in general, and the Disposition
of a Garden of Pleasure 3

- As 1. Of the Soils ib.
2. Situation of a Garden 4
3. Forms of Gardens, with a particular Design
of a small Garden of great Variety. 5
4. Laying out and proportioning of Parterres,
Grass-Plots, &c. 7
5. Of Gravel-Walks 8

CHAP. II.

Of Flowers, the Seeds, their Sowing and Planting
abroad; with their particular Management. } 8



As

The Contents.

As 1.	The Flowers in general rais'd by Seeds,	}	9
	and by Off-sets		
2.	Of the Tulip		10
3.	————— Carnation and Gilliflowers		13
4.	————— Auricula's, &c.		18
5.	————— Anemone		20
6.	————— Ranunculus		22
7.	————— Hyacinth and Star-Flower		23
8.	————— Narcissus and Junquil, &c.		25
9.	————— Iris, or Flower-de-Luce		26
10.	————— Lilly, and Lilly of the Valley		28
11.	————— Peone		29
12.	————— Stock-Gilliflower, and Wall-Flowers	}	ib.
13.	————— Saffron Flower, Crocus, &c.		
14.	————— Cyclamen		31
15.	————— Hepatica		32
16.	————— Cardinal's Flower		33
17.	————— Lark's-Heel, or Lark's-Spur		ib.
18.	————— Moly, &c.		34
19.	————— Amaranthus		ib.
20.	————— Nonsuch, or Flower of Bristol		35
21.	————— Marriot of Peru		ib.
22.	————— Columbine		36
23.	————— Of the Orchis, or Bee-Flower		ib.
24.	————— Nestertian		37
25.	————— Hollihock		ib.
26.	————— Dog's-Tooth Violet		ib.
27.	————— Snap-Dragon		38
28.	————— Sun-Flower		ib.
29.	————— Crown-Imperial		ib.
30.	————— Red Sattin-Flower		39
31.	————— Dame's Violet		ib.
32.	————— Crane's-Bill		ib.
33.	————— Venus Looking-Glass		40
			ib.
		34.	Of

The Contents.

34.	<i>Of Dittany</i>	p. 40
35.	———— <i>Candy-Tufts</i>	41
36.	———— <i>Scarlet-Beans</i>	ib.
37.	———— <i>Africans</i>	ib.
38.	———— <i>Hellebore</i>	ib.
39.	———— <i>Sensible Plant, and other Plants propagated for fancy</i>	} 42
40.	<i>Of other Flowers and Plants more com- mon, &c.</i>	} ib.
41.	<i>Observations relating to removing of Flowers</i>	} 43

CHAP. III.

Of Flower-Trees, Shrubs, and other curious } ib.
Plants, and their Culture.

As 1.	Of the Rose	44
2.	———— Jessamine, and Syringa, Li-	} 46
	lack, &c.	
3.	———— Pomegranate	47
4.	———— Mezerion	48
5.	———— Indian Bay, &c.	ib.
6.	———— Strawberry-Tree	49
7.	———— Dwarf-Almond	ib.
8.	———— Cistus	ib.
9.	———— Sena-Tree	50
10.	———— Indian Fig	ib.
11.	———— Shrub-Spirea, Spirea-Frutex	51
12.	———— Hypericum Frutex	ib.
13.	———— Laburnum	ib.
14.	———— Virginian Climber	ib.
15.	———— Virgins Bower	52
16.	———— Shrub Mallow	ib.
17.	———— Spanish Broom	53
	* * 2	18

The Contents.

18.	<i>Of the Everlasting Peas</i>	p. 53
19.	<i>Of Woodbinds, particularly the Honey Suckle</i>	ib.
20.	<i>—— Peach-Tree, Cherry-Tree, &c.</i>	54
21.	<i>—— Gilded Rosemary Tree</i>	ib.
22.	<i>—— Shrub Night-Shade</i>	55

C H A P. IV.

The most commodious Methods of Erecting Conservatories, Green-Houses, and Orangeries, with the Culture and Management of Exoticks, Perennial-Greens, and other tender Plants. 55

As 1.	<i>The Method for building of a Green-House, recommended by Mr. Evelyn</i>	56
2.	<i>The Common Green-House, and Management</i>	57
3.	<i>Mr. Woolridges Conservatory</i>	58
4.	<i>A Conservatory for Variegated Greens, Plants, and Flowers, design'd by Mr. Laurence</i>	ib.
5.	<i>A Conservatory hitherto unobserv'd by any Author</i>	ib.
6.	<i>A design of an Orangerie</i>	59
7.	<i>Of the Orange-Tree, and its Culture</i>	60
8.	<i>Of the Lemon-Tree</i>	62
9.	<i>—— Myrtle</i>	ib.
10.	<i>—— Maracoe, or Passion-Tree</i>	63
11.	<i>—— Amomum Plinii</i>	ib.
12.	<i>—— Indian Jessamine, &c.</i>	64
13.	<i>—— Marum</i>	ib.
14.	<i>—— Marum Syriacum</i>	ib.
15.	<i>—— Lilly of Japan</i>	ib.
16.	<i>—— Geranium</i>	ib.
		17.

The Contents

17. ———	<i>Sedum, or Aloe-Tree</i>	65
18. Of	<i>other Green-House Plants,</i>	&c. ib.
19	<i>Of the Management of such tender Plants as will not endure housing.</i>	ib.

CHAP. V.

Of other Greens more hardy, that will endure the Cold Ever-Greens, &c.	} pag.	
		65

As 1.	<i>Of the Laurus Tinus</i>	66
2. ———	<i>Alaternus, and the gilded sort</i>	ib.
3. ———	<i>Philyrea, and the gilded sort</i>	ib.
4. ———	<i>Laurel, and the gilded sort</i>	67
5. ———	<i>Bay</i>	68
6. ———	<i>Eugh</i>	69
7. ———	<i>Juniper</i>	ib.
8. ———	<i>Holly, and the fine gilded sort</i>	} ib.
9. ———	<i>Box, and the gilded sort</i>	70
10. ———	<i>Cypress and Cedar</i>	ib.
11. ———	<i>Fir and Pine</i>	71
12. ———	<i>Chestnut</i>	72
13. ———	<i>Platanus</i>	ib.
14. ———	<i>Ilex, or Ever-Green Oak</i>	73
15. ———	<i>Tree of Life</i>	ib.
16. ———	<i>Glastenbury Thorn, &c.</i>	ib.
17.	<i>How to check luxuriant Growth, and to promote an agreeable Variation in Plants</i>	} ib.

The Contents

C H A P. VI.

Concerning Plantations in Avenues, Walks, Wildernesses, &c. and the best Methods for Raifing, Pruning, and disposing of all lofty Vegetables.	pag. 74
---	---------

As 1. <i>Of the Oak</i>	75
2. ——— <i>Elm</i>	76
3. ——— <i>Ash</i>	77
4. ——— <i>Beech</i>	78
5. ——— <i>Walnut</i>	ib.
6. ——— <i>Mulberry</i>	79
7. ——— <i>Horn-Beam</i>	ib.
8. ——— <i>Lime</i>	80
9. ——— <i>Poplar, &c.</i>	ib.
10. ——— <i>Abele and Aspen</i>	ib.
11. <i>Other Trees of less Note</i>	ib.
12. <i>Observations in pruning, &c.</i>	81
13. <i>Infirmities of Trees, with Directions for their Cure</i>	ib.

<i>Kalendarium Hortense</i> ; or, the Gardener's Calendar, containing necessary Directions for the several Monthly Works in the Parterre, Flower-Garden, and Kitchen Garden, throughout the Year.	83
---	----

As 1. <i>Hot Beds being often mention'd, Directions for making a Hot Bed, and its Use, &c.</i>	ib.
2. <i>Directions for the Month of January</i>	85
3. ——— <i>February</i>	86
4. <i>March</i>	

The Contents.

4.	— — —	March	88
5.	— — —	April	90
6.	— — —	May	92
7.	— — —	June	94
8.	— — —	July	96
9.	— — —	August	98
10.	— — —	September	100
11.	— — —	October	102
12.	— — —	November	103
13.	— — —	December	106

Conclusion, with two Letters from Mr. *Laurence*, containing some Directions for the Improvement of a Garden of Pleasure, particularly with Relation to Variegated Greens, &c. 107, 108, &c.

T H E

THE CONTENTS TO THE APPENDIX.

CHAP. I.

A Parallel between Plants and Animals ; with
an Attempt to prove the Circulation of the Sap
in Vegetables. Page 19

CHAP. II.

Of the Generation of Plants. p. 26

CHAP. III.

Of Soils proper for the Nourishment of Plants,
and Composts for forwarding the Growth of
Plants. p. 38

CHAP. IV

Of Timber-Trees and Underwood, and of Dressing
and Cleaning of Woods. p. 46

CHAP. V.

The Method of planting an Acre of Ground with
Timber-Trees and Underwood ; with the pro-
fits which will arise from that Plantation in nine
Years, seventeen Years and twenty five Years
after Planting. p. 60

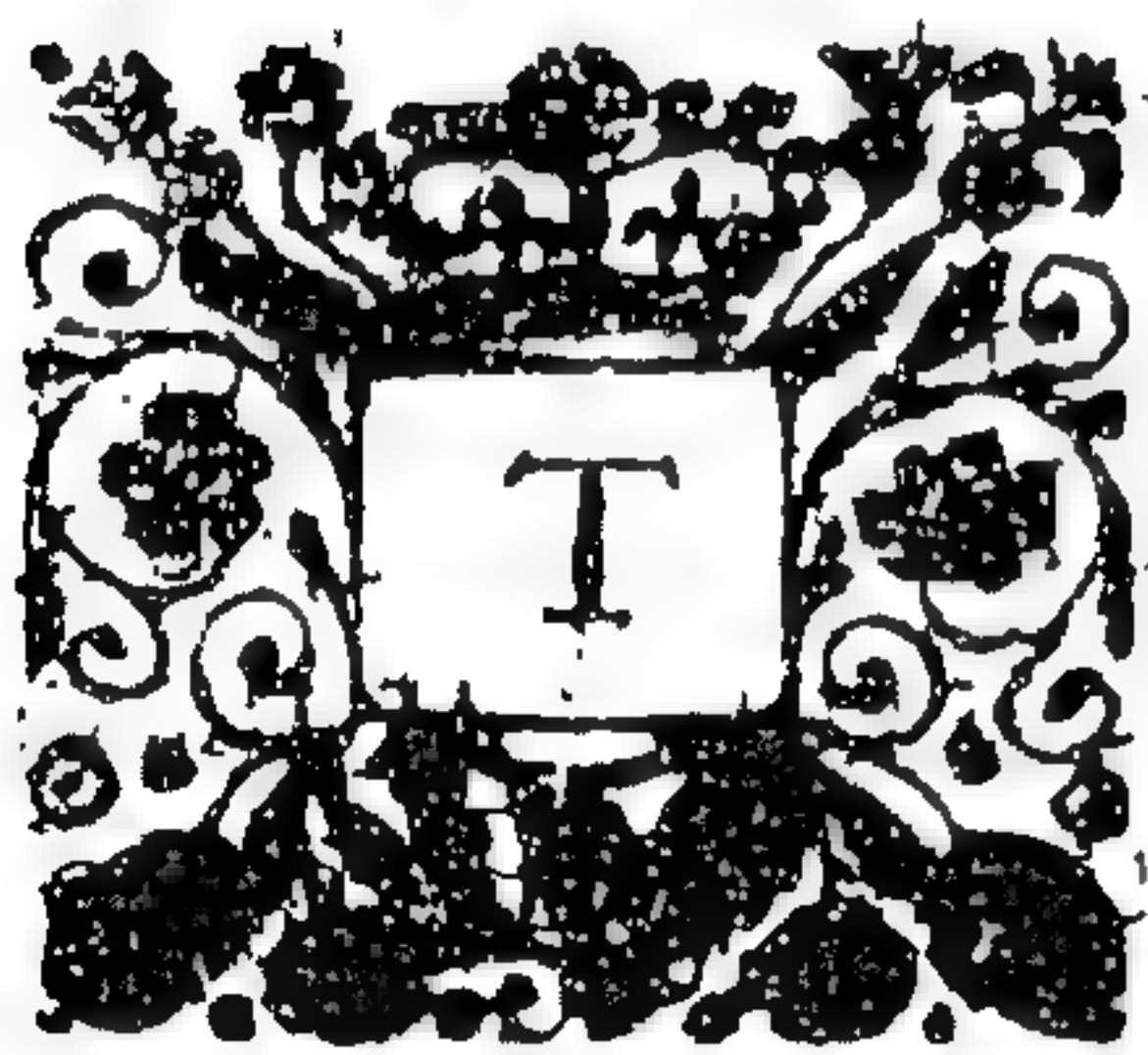
CHAP. VI.

Description and Use of a New Invention for the more
speedy designing of Garden Platts ; whereby we
may produce more Variety of Figures in an Hour's
time, than are to be found in all the Books of
Gardening now extant.

THE
Clergy-Man's Recreation;
SHEWING THE
Pleasure *and* Profit
OF THE
ART *of* GARDENING.

CHAP. I.

Concerning Preparing the GROUND *for*
PLANTING *and* SOWING.



THE Method that I shall observe in treating on this Subject, shall be in the same that I would advise all Persons to proceed in, who intend to form a Garden of their own, where it may be there are little or no Preparations towards it. And I do not intend to direct you to any such costly Experiments and Rules as Monsieur Quintinye proposes to his Royal Master: But shall all along have Regard not only to the cheapest, but also the most Expeditious Methods to procure you the Fruits of your Cost and Labour. Therefore for the sake of
B 2 those

those who must either form a Garden out of their Home-sted, or (which is most common) do find a mounded Place for a Garden, full of little else but noxious and spreading Weeds, I shall lay down the following Rules distinctly to each Case. To the first, who are to form a Garden anew, and intend to build Walls, I say that Thirty or Forty Yards square is abundantly enough for that you intend for your best Garden, where you would have your choicest Fruits and Flowers grow; for more would make you uneasy to have it kept and managed as it ought: If there be no great Inconvenience in it, it will be better to have your Walls face not the four Cardinal Points, but rather between them, *viz.* South-East, South-West, North-East, and North-West; for then the two former will be good enough for the best Fruit; and the two latter good enough for Plums, Cherries, and Baking Pears. Only observe this, that instead of building your Wall that faces the North-East, it may be adviseable (to save Charges) to plant a Crab-Hedge of three Rows, which will be a good Mound, and will quickly grow up to be a better Fence than a Wall against the West and South-West Winds, which make the greatest Destruction in a Garden; and according to the Observations I have made, do blow two Parts in three of the whole Year. It may be adviseable also to plant here and there an Elm, to be growing up to a greater height. For whatever you do, you must be sure to guard against the Westerly Winds, which blast your Fruit more than those from the East, as they are much more frequent. After your Platform is thus laid out, and you have disposed your Walks of Gravel and Grass, as your own Fancy leads you (for there is no Mode or Fashion in those Things) you must then hasten to
 build

build your Walls, that your Fruit-Trees may be ready to plant in *October*, and in the mean Time be digging your Ground to mellow all Summer and Winter.

There is some different Method to be used by those that find a Garden-place already mounded, full of noxious Weeds: For their first Care must be to destroy *them*; so that what is sown or planted afterwards may not perish by *their* spreading luxuriant Growth. Several Methods have been proposed towards destroying Weeds, such as sowing the Ground thick with Turnips, Hemp, &c. But I have found no Way so certain and effectual, as laying the whole Ground fallow all the Summer, by digging it over two or three several Times, always observing to do it in the greatest Heats and Drought. This not only certainly kills all the Weeds, but it likewise mellows and enriches the Ground exceedingly, as all Farmers know very well. Most are naturally desirous and greedy to make some Improvement of their Ground; but if they sow any Thing with Expectation of Fruit, while 'tis full of Weeds, 'tis but loss of Time, and they will repent it. I do not speak this with Respect to your Plantation of Fruit-Trees, either Dwarfs or Wall-Trees. For I would have no Time lost in the planting of them, that you may the sooner taste their Fruit, neither will the Method propos'd, in the least hinder this Design; for you may with little Difficulty clear those particular Places of all noxious Weeds (which yet must be done with Care) where you intend to plant your Trees, and yet the rest of the Ground may lie fallow; which leads me to shew you under this Head, what is to be done before you plant your Trees: For except your Ground be extraordinary good indeed, you must dig a Hole of four
Foot

Foot square, and two Foot deep, which must be filled up again with Dung and good Mould, for each Tree you intend to plant. If your Ground be Marle or stiff Clay (which is my particular Misfortune) you must get all the Rubish you can together, of Lime, Stone, small Pieces of Brick and Tyle, Coal-Ashes, and Drift-Sand to mix with your best Mould and Dung, so that the Clay may not convert it to its own Nature; fill up the Hole with this half a Foot higher than the rest of the Level, remembering to preserve some of the finest Mould near the Top (free from Dung) to plant your Tree in: But if your Soil be a not over-rich or hungry Gravel or Sand, you must fill up the Holes with the best rotten Horse and Cow Muck you can get, together with the richest Mould. Thus when your Holes are cleared from Weeds, and prepared and fill'd up according to the forgoing Direction, put an upright Stick in the middle of the Hole, for a Mark where to plant the Tree in the Order you intend.

But because it is a thing of such great Consequence to have your Trees well planted, in order to secure their future Growth and Prosperity, I cannot but add one farther Direction about this Matter, which long Experience has confirm'd to me, to be a good one, *viz.* this; That nothing is more agreeable or suitable to the Roots of a young Tree, than untry'd Mould or Earth, such I mean as has not within the Compass of an Age been turn'd up either with Plough or Spade, which I suppose may easily be found in most Lordships: But I would recommend *that* particularly which is wont to be called a Waste or Common, whereon Cattle have used to stand either for Shelter or Convenience. The Nature and Richness of this having never been exhausted

exhausted by the luxuriant Growth of Plants or Shrubs, or larger Weeds, there is a strange and uncommon Fertility in it; more, I think, than is ordinarily to be met with in any other rich Compositions of made Earths; at least 'tis such as I have found more suitable for the growth of young Trees; and therefore the more of this you put into the Places where you plant, the better; always observing to take off a thin upper Turf, and then dig only one Spade deep for this purpose; and if your Garden Soil be Marl or Clay, remember (as I observ'd before) to mix Coal-ashes or Drift-sand with it, otherwise all will quickly be converted to the native circumambient Soil, and thereby your Tree in ten or twelve Years time will languish, canker, and it may be, die.

I need not tell you here, that 'tis perfect murdering a young Tree to set it in the same Place and Soil where an old one had grown; and therefore more than ordinary care is to be taken to replenish the Place with this new untry'd Mould, as far as the old Roots went, or at least as far as new ones need to go.

It may not be amiss also to add under this Head, that if your good Soil be very shallow, or that your Garden lie over-wet and moist, it is a very good and safe way to lay Tiles or Bricks all over the bottom of your Trench, to hinder the Roots from striking downwards, and so occasion the spreading into the good Soil. For 'tis a Rule in Gardening, that the more horizontally either Roots or Branches of Fruit-Trees run, the better they answer the Purposes of bearing Fruit; as I shall have occasion to observe further under the Head of *Pruning*. I shall conclude this Head with advising those who are so unhappy as to lie upon a spewy, wet, or clay Soil, to make

a pretty many convenient Drains, which may be done at a very easy Charge, by only digging Trenches two or three Foot deep, leading to the lower Ground, and then pouring in Pebbles or any rough or rubbish Stones : Upon which lay some small green Boughs, and throw the Earth again upon them. This I have experienced to last many Years, and will effectually drain your Garden.

C H A P. II.

Of the Method of Planting Fruit-Trees in your Gardens.

WHEN you have disposed your Borders according to the foregoing Directions, great Care must be taken in the right ordering and disposing also your young Trees ; for if they be not planted according to Art, viz. not rightly order'd in their Roots, nor set at their right Height or due Distances, your Expectations may be in great measure defeated. If therefore your Trees come from the Nurseries about London, (as what seems most adviseable) the first thing you have to do is to prune their Roots, by taking off all the small Fibres intirely, and shortning the bigger Roots to about six Inches from the Stem ; and if they have received any Gall or Wound in their Carriage, that part of the Root must also be cut off : Two or three Spurs are sufficient ; but if there be more good ones, they may remain pruned, as aforesaid. The next thing to be done, by reason of their having been out of the Ground severat Days, and so are become very dry, is to steep them in some Vessel of Milk and Water, or Dish-water, for 24 Hours, which will supply the
Roots,

GARDENING, *Improv'd.* 7

Roots, and make them apter to strike new Fibres into the Earth, when planted. The Head also must be pruned ; but that may be done any time before it begins to shoot in the Spring. A single Branch is sufficient for a Head, and it is not well to leave above two, pruned to about six Inches above the Place of Grafting or Inoculation. If it be a Dwarf, place it as upright as you can ; if for the Wall, let the Foot as far from the Foundation as conveniently may be, leaning with its Top to the Wall.

The forgoing Direction about pruning the Roots and Head ought to be particularly regarded, because it is the common Fault of young and unskilful Planters to be covetous of leaving as much Head as may be ; thinking *that* to be the earliest and most ready Way to cover their Walls and to have Fruit ; whereas if it does not endanger the Life of the Tree, it is a certain Means to retard its Growth, and keep the Walls bare and uncover'd towards the Bottom. Indeed, Reason as well as Experience tells us, that there should be a due Proportion between the Roots and the Head ; for Nature having receiv'd a great Check at the Removal of a Tree, its Roots being wounded, shortned, and exposed to the Air, if the Tree should not be eas'd of that tall Head it got in its Prosperity, (now larger than the injur'd Roots can supply with Sap) the necessary Consequence would be, that if it should just live, yet it must continue in a weak, languishing, and unthriving Condition. However it may easily be perceived, by what has been said, that there is a discretional Power to be us'd by a Planter, with Respect to those Trees which are only removed from one Part of the Garden to another, taken up with great Care, and most of the Mould about the Roots. Such I have my self frequently removed

C

without

without either pruning Root or Branch, and have succeeded very well: But then this is hardly to be practised on any but small young Trees: And I sometimes do this designedly, with only this View, to check the luxuriant Growth of a too vigorous Tree, running altogether into Wood, taking it up carefully, and immediately setting it down again in the very same Place, for a Reason you'll hear more of, when we come to pruning.

The different Nature of Soils is to be regarded, as to the Height you are to plant a Tree above the Level of your Walks. In a warm, dry Soil, a little Elevation does; but in a wet Clay, you cannot ordinarily plant too high, so that you do but in any Sort cover the Roots with the best fine Mould, and preserve it moist for one Year, against the scorching Heats of the Sun, by which Means it will be preserved from Canker, and thrive much the faster, even tho' there should appear some Part of the bigger Roots above the Surface; and still remember to allow for the subsiding of the new Earth, which will deceive you three or four Inches. Be careful to follow these Directions, observing to leave no Vacuities at the Roots, but press the fine Mould gently and closely with your Hand, and you need not fear hardly any Sort of our Fruit-Trees growing and flourishing.

But it may not be amiss to say something concerning a safe Method to keep new-planted Trees moist and cool for the first Year, and, if Need be, for the second. Mr. *London* and *Wife* recommended Fern and Straw laid five or six Inches thick, and two or three Foot every Way from the Stem of the Tree, having first laid half-rotten Dung all round the Tree. I very much approve of this, to keep them warm in Winter from the violent Frosts: But the

Straw

Straw and Dung lying too long together, engender Worms, Ants, and other sorts of Vermin, very injurious to Roots of Trees: Therefore the best Method I have found to keep the Roots cool and moist in Summer, is to lay Sand in a convenient Circle round the Stem of the Tree, and then pitch or pave it with small Pebbles, Flints, or any little smooth Stones, which will not only look beautiful to the Eye, but also effectually answer the End of keeping the Tree cool; and besides, when you water it in the Summer, will help to let in the Water, and keep the Earth from being wash'd away from the Roots.

It is also to be observed, that this Method of managing Trees in the planting them, will be of the same Use with Respect to all Ever-greens, which are generally not over forward to thrive after a Removal. I say, you must *plant* them after the foregoing Rules, but not *prune* them, especially Hollies and Yews, which have matted Roots, and will hold the Earth to them, sufficient to convey them to small Distances; and if a greater Distance is required, they ought to be sent in Pots or Baskets, that neither Root nor Head may be touched with a Knife.

As to the Distance in which Fruit-Trees are to be planted against a Wall, *that* is in a great Measure to be regulated by the Height of the Wall. Four Yards Distance will do, if the Wall be ten or twelve Foot high, but if it be but seven or eight Foot high, five Yards Distance is the least that can be allowed: Only you are to observe, that a Pear, a Plum, an Apricot and a Cherry, require something a greater Distance than a Peach or Nectarine; and therefore the lower Walls too are most suitable to the latter, if they have but a good Aspect. I cannot but re-

commend that frugal Method, practis'd by most Gard'ners near *London*, of planting tall Fruit-Trees, Cherries, or Plums in the intermediate Spaces of the Wall, so that both Top and Bottom will be well-nigh furnished in two or three Years time. And then as the Dwarfs spread and increase, they take away the tall ones quite, making Standards of them in Orchards; except you had rather chuse to plant Vines in those intermediate Spaces, which will quickly run up to the Top, and bear the second or third Year.

As to the best Season for planting, the general Rule to be given for *that*, is from the middle of *October* to the middle of *March*; only you must be sure to avoid doing any Thing of this Nature in hard Frosts; and if your Trees in coming down happen to be overtaken by them, your only Way is to carry them into Cellars, laying what Mould you can get over their Roots, and plenty of Straw over that, staying till the Frost be gone, that you may plant them safely. Tho' I have said that any Time betwixt *October* and *March* be the Season of Planting, yet I prefer Planting in Autumn rather than Spring, for these two following Reasons.

(1.) Because a Tree planted in *October* or *November*, if the Ground be not over-moist and cold, will make some little Progress towards its future Growth: during the Winter Half-year, its Roots swelling and disposing themselves to put forth those several small Fibres, which are to nourish and support the Tree, and so prepare it for the kinder Influences of the Sun in the Spring? when also the Earth will be better fixed and settled about the Roots, so as to keep out the parching Winds of *March* and *April*, often fatal to young Trees, as well as new-removed Plants and Flowers.

(2.) Because

GARDENING, *Improv'd.* 11

(2.) Because the Spring is a time when the chief of a Gardener's Work comes on, Digging, Sowing all manner of Seeds, Grafting, and some Pruning and Nailing, therefore it is not desirable to have also the business of planting Trees to do then, when most of his other Business falls together upon his Hands. We commonly say, what is done in a Hurry is seldom done well, and when Business is once put into good Order, 'tis nigh half done : It makes a great part of a wise Man's Pleasure and Diversion, to have always something to do, but never too much. And methinks we should always chuse to have Amusements offer themselves to us, not in a Crowd, but in a regular and orderly Succession. Besides, some Intervals of Time betwixt one sort of Business in a Garden and another are very desirable to a good Man, who knows how to recapitulate all his Pleasures in a devout lifting up of his Hands, his Eyes, and his Heart to the great and bountiful Author of Nature, who gives Beauty, Relish, and Success to all our honest Labours. These grateful Thoughts, I own, these Contemplations in my own Garden, (with Hopes of living in Paradise itself, where both Natural and Revealed Religion will be better understood than they are at present) give me a comfortable Taste of the Divine Goodness and Bounty, which alone give the truest Relish to every Thing else.

But to return, and to conclude this Chapter : Your Trees being planted according to the foregoing Directions, and standing with their tall Heads till the beginning of *March*, tack'd to the Wall to prevent their being shaken with Winds, you are then to shorten their Heads according to the Rule already laid down ; but great care must be had that it be done with a sharp Knife
and

and a steady Hand, for fear of disturbing the Root: Cut it slopewise, the slope facing the Wall.

CHAP. III.

Concerning the most agreeable Disposition of a Garden.

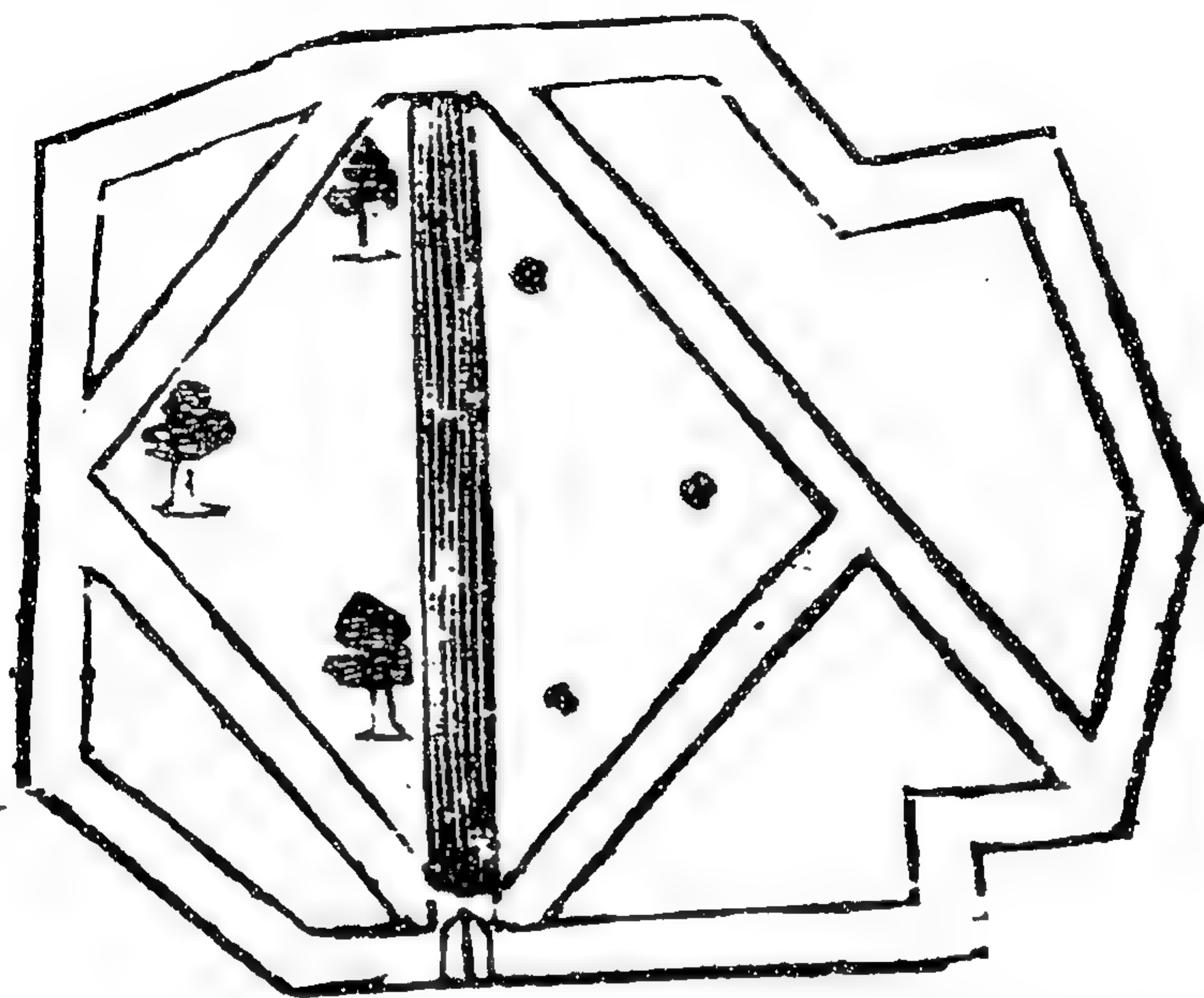
AFTER an early and diligent care to furnish our Walls with Trees planted after the best Method, and in the properest Season, we will commit them to the prolific Blessing of Heaven, that gives Life and fruitful Seasons, and proceed to consider what is to be done next, to make the other parts of the Garden agreeable as well as profitable. My purpose is not to give you all the varieties of Platforms, nor to lay out great Designs. Every one may easily please himself in a Form that strikes most his own Fancy in so small a piece of Ground as I suppose a Garden need contain: Only, it may be, I may happen to give some useful Hints to those who are desirous to hear what others can say to direct their own Fancies.

I would say then, that if I were to chuse a Figure that could be as cheap and as easily had as another, it should be a Square, or rather an Oblong-square, leading from the middle of my House, a Gravel-walk in the middle, with narrow Borders of grass on each side for Winter-use, and on each side of them Rows of all the Varieties of Winter-greens set at due Distances, which will appear with an agreeable Beauty from the House all the Year. But then I say too, that I should be under no sort of Uncertainty to be confin'd to an irregular piece of ground, which may be made to have its Beauties as well as the most regular. Strait Lines bring a-

ny thing into Order, and I see not but a Triangle in a Garden has its Beauty as well as a Square, and yet an irregular piece of ground may be made to have Both by vertue of strait Lines, *viz.* Borders and Walks.

I confess indeed, an Irregularity is not so easily hid in a little Ground as it is in a Garden of larger extent, where long Walks and tall Hedges interrupt a distant and thorough View, and where, though the Walks and Hedges terminate in obtuse or acute Angles, no ways disagreeable to the Eye; yet you are insensibly led into new and unexpected Beauties still as you advance. Three or four Walks of double Rows of Hedges may be there contrived to open themselves at once to view, all terminating in the place where you stand; and the Triangular Spaces, by an ingenious Fancy, may be there agreeably disposed and filled up either with Borders of Flowers, or with Dwarf-Trees, or with Flowring Shrubs, or with Evergreens? Or lastly, with a little Wilderness of Trees rising one above another, till you come to the point of a tall one in the middle; this last may be made to look very beautiful with Charge and Care to clip them; for I am now got into a large Garden that requires a good Purse; and therefore before I part with it, I will only add, that methinks Gentlemen should not be over-solicitous at great Charges, so to level or square their Gardens, as to throw them open to one single view from the House (which doubtless may be made a very beautiful one) because it may be worth while to consider, whether matters may not be so contrived, as to afford you many uncommon Prettinesses wholly owing to the Irregularity or Unevenness of the Ground; insomuch that every little advance you make, you shall be presented with something new to strike the Fancy. But

But altho' (as you see) Irregularities are best disguised and set off in a large Plot of Ground ; yet even in a lesser Garden, and irregular Form, if it be not very awkward indeed, may be reduced to a Regularity sufficiently agreeable as well as useful, as may be seen by the following plain Scheme.



But it is seldom one shall meet with so irregular a piece of Ground ready Walled out and designed for a Garden ; and it can hardly be supposed any Lover of Order would chuse to make it so, if he could easily help it.

As to the Walks, every one knows that both Grass and Gravel are very agreeable when they are well kept ; and therefore it is convenient to have a mixture of both ; and I think seven Foot wide is sufficient for either, in such a Garden as I am supposing. Only it may not be amiss to add, that it will be some advantage to your Fruit, if you contrive those Walks that run parallel to your South-east or South-west Walls to be Gravel, because the Sun will certainly thereby reflex an additional

ditional Heat to them. I have said nothing about the properest Materials for Walls, because I suppose every one will chuse to make use of such as are nearest at Hand, and what the Country affords. Brick is undoubtedly the handsomest and most commodious for Nailing; and considering what a great many Nails are used about Trees every Year, and that Lath-Nails will do for a Brick-Wall, I believe 'twill ordinarily prove cheaper than that of Stone, whose Joints are larger, and require much bigger Nails. However, there is another sort of Wall very common in *Northampton-shire* and *Leicester-shire*, viz. That made of Earth and Straw, well tempered together, known by the Name of Mud-walls, which (tho' not so handsome) I venture to affirm (contrary to what most have said) to be better than either of the two former, for accelerating the ripening of Fruit, as I my self have found by Experience. The Fruit indeed is sometimes apt to be soiled by great dashes of Rain: But there is not much in that, and the Objection is wholly taken away in such Fruit as requires paring, as Peaches and Pears, &c. If the Walls be made of very good Earth, and well temper'd, Nails will do, otherwise I use Pegs of Wood, such as are used for bad Walls, for fast'ning the Branches. The large Copping of Straw that is laid upon these sort of Walls is no small Advantage to the Fruit, in sheltering them, and keeping off all perpendicular Rains. But, as I observ'd, they are not very tightly; and those who will regard Beauty should have Brick Walls.

It is not convenient to have the Borders under the Wall too wide; three Foot is sufficient, that you may not at every Turn be forc'd to stand upon them to nail or gather. There are great Varieties of Aro-

maticks and other Plants recommended to support Borders, such as *Thyme*, *Winter-Savory*, several sorts of *Sedums*; but none I approve of so much as Dwarf-Box, in that it is so durable, and so easily kept with one clipping in a Year.

Great Care must be taken that no sort of tall Trees be suffer'd to grow in any of the opposite Borders, or intermediate Spaces, so that the Shade of them reach to any of the South-East or South-West Walls, whereby your Expectations of having good or early Fruit might be easily frustrated; those Places so near your Walls would be better filled with round Dwarfs kept hollow in the middle; or rather with flat ones, humouring the Borders with their Horizontal Branches; and what sorts are properest for these, I shall tell you in a Chapter by it self.

I never thought it any Disparagement to my best Garden, where I make my Soil commonly better than ordinary, to sow in some of the intermediate Spaces some of those Reptiles useful in the Kitchen, *viz.* Carrots, Onions, Parsnips, Spinage, &c. that it may answer its Purpose, a profitable as well as pleasant Garden; for these not growing tall, but kept clean from Weeds, are no unseemly sight at all, but rather make a pleasing Variety amongst Trees and Flowers. Indeed, I commonly chuse to banish out of this Garden all those prouder taller Things, Peas, Beans, Kidney-beans, and Cabbages, which are not so sightly, and look more ruinous; and therefore assign them a Place by themselves at a Distance.

It is needless to add any more Particulars under this Head; every one's own Fancy must supply what seems a Defect; for 'twould be endless to
speak

Speak to all those Cases that an uneven irregular piece of Ground might seem to require.

C H A P. IV.

OF NURSERIES.

AFTER we have given our selves some Respite from the great Business and Concern of Planting, and disposing the Ground, according to our own Fancy, (for that's the Beauty that pleases most) we must by no Means forget, as soon as possible, to begin to raise Nurseries of all sorts of Trees, which will be growing up to exercise our Art and Skill, and supply all our future Wants; which also will still answer our Purpose of Pleasure and Profit. And I am not for throwing such Nurseries too far from our daily and constant Inspection, but am willing, if possible, to let the chief of them have a Place in the best Garden, lest they be forgotten and neglected; for which Purpose an irregular Figure in a Garden is peculiarly subservient, affording several little triangular Spaces, proper to raise the several Nurseries we shall have Occasion for.

Now there are at least two distinct Places to be allotted for the Purpose of Nurseries, *viz.* one for tall Standards, Apples, Pears, Oaks, Elms, Ashes, Sycamores, and Limes, &c. which may be most proper to be at some Distance from the House; and another for Dwarfs, such as you intend for Peaches, Apricots, Pears, Plums, and Cherries. And I would also have a third added for all sorts of Ever-greens by themselves. Now these two latter may be very properly made in some such by-places, as most Gar-

dens will afford, and that with no Interruption to the Beauty of it.

The Nursery you intend for the taller Standards should be made in a good rich light Soil, from the several sorts of Seeds peculiar to their kind, sown in *October* or *November*. Crabs and wild Pear-Kernels are not to be preferr'd for Stocks to make Apples and Pears. Limes and Elms are to be raised from planted Suckers; and if you sow Walnuts, 'tis adviseable to sow them with the Green Shell upon them, to preserve them from Mice in the Winter. If this Nursery be well managed, and kept clean from Weeds for two Years, the third Year the Crabs and Pears will be fit for Grafting and Inoculating, the Method of which I shall briefly shew you in a Chapter by it self.

It will be convenient to have the Nursery for Dwarfs by it self; that they may not be overtopped by taller Trees. And you are to observe that the Stones of Peaches and Apricots are by no Means proper to raise those sort of Trees good or lasting: But for this Purpose you must get together a good Quantity of Stones, taken either from the Pear-plum, Muscle, or *Bonum magnum* Plum, which have been found by long Experience to be better and more lasting than any other. The not being careful about this Matter has been the Occasion of great Disappointments; the Trees often dying after two or three Years, tho' the Stocks have been alive. Black Cherties also are the only Stocks whereon to raise all the several sorts of Cherries; but the best Plum will do on any ordinary Plum or Sucker: Tho' 'tis not so advisable to use Suckers, even from the best sorts, because they will be constantly apt to put forth such plenty of Suckers themselves, and so the Vigour of the Tree may be too much exhausted that Way.

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The third Nursery also that I mentioned, of all sorts of Ever-Greens, is a very pleasant and profitable one, and deserves a Place in our Garden ; but it requires something of a different Management from the two former. For which purpose you must provide your self with a sufficient Quantity of the Seeds, or Berries of Holly, Yew, and Juniper, which you may put into distinct but ordinary Pots or Boxes, putting also some fine Mould over them in the Pot, and so bury them for one Year. For if you should sow them (as other Seeds) immediately, they would not come up the first Year ; by which Means you would lose the Ground that Year, and have besides the trouble and charge of keeping it clear from Weeds : Whereas by thus laying them in Heaps for one Year in any by-place, you will have them all ready by the following Spring to sow out in order, and they will come up as other Seeds ; only you must be very careful to keep these Beds clean from Weeds, which do so easily choke all Plants of so slow a Growth. A slow Growth indeed they have for the first two Years ; but after that, they will recompence all your Labour and Care, by their Beauty, Usefulness, and vigorous Growth : Whereas should you content your self to get these sorts of Plants out of the Woods or Hedges, they will mightily deceive you. The greatest Part of them will die ; and the rest will only toll you on with Expectations of their Growth. and yet will rarely prove vigorous and thriving Plants.

This last Nursery will be of great Use to give new Beauties to your Gardens as Occasion serves, or as your Fancy shall lead you to adorn it with several sorts of Ever-green Hedges : Among which, none in my Mind is to be compar'd to the Yew, which is (as I say) so confile, and grows so very thick and
beautiful

beautiful with clipping, and withal bids defiance to the hardest Winters, that it is the best and most lasting Ornament in a Garden. To make one in love with these Hedges, you need only take a walk either in Paradise or the Physick-Gardens at *Oxford*, where you are presented with all that Art and Nature can do to make these things most agreeable to the Eye. Indeed, the Yew is a Plant that loves Uniformity, and is naturally apt to grow regular, and withal so intire that it is no very difficult matter to dispose it either for Hedges or Pyramids.

Your Hollies will be best employed for Stocks to raise the several variegated sorts by Grafting and Inoculation, which, tho' now common, are no inconsiderable Ornament to a Garden, making their best Shew, when all other things have lost their Glory; especially when they happen to be full of Red Berries, which make a most pleasing mixture with white, or yellow, or green Leaves.

I ought to tell you in this place, that Firrs and Pines are to be raised from those little Seeds taken out of their large Apples, and they will come up the first Year, and will quickly make beautiful Trees, especially in a cold Clay. *Philerea's* and *Pericanthia's* will do best from Layers. And as for Vines and Figs, the Culture and Encrease of them is so easily had from Layers and Suckers, that you need not give yourself any farther trouble about them.

C H A P. V.

Of PRUNING.

IT is of all others the most important Concern of a Lover of a Garden, to know how to prune
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his Fruit-Trees seasonably, and according to Art ; that when he comes to examine them at the time of Fruit, he may find something more than Leaves or Wood. And yet I can by no means think it so difficult a matter to do, as Monsieur *Quintinye* would make one believe, by his tedious and enigmatical way of Writing on this Subject, which (as far as I can see) has rather perplex'd than inform'd his Reader. I have had twenty Years Experience in this Matter ; and if I can but speak intelligibly, (as I hope I may) I question not but to make others perform and practise as successfully as I have done my self. So great a desire have I that the Love of Gardening may prevail, that it be not tired with great Charge and little Profit, but be rewarded with good as well as much Fruit. Now in the Business of *Pruning*, it is a hard matter to speak to all Cases in exact Method, or in the Order of Time ; I shall therefore first lay down some general Rules as the fix'd Laws whereby every one should govern himself in the Management of his Fruit-Trees, either Dwarfs, or those against the Wall, and then proceed to some other particular Directions that ought to be well regarded for each particular sort, tho' they have not ordinarily been taken notice of. To which purpose it is to be observ'd ;

(1.) That the more the Branches of any Tree are carried Horizontally, the more apt and the better disposed that Tree is to bear Fruit ; and consequently the more upright and perpendicular the Branches are led, the more disposed that Tree is to encrease in Wood, and less in Fruit.

This is what I have long experienc'd to be true ; and (as I conceive) the reason of it seems to be, That by bending down the Branches of a Tree from a perpendicular to an Horizontal posture, you thereby check

check the Sap, or free circulation of it ; (for that it doth circulate, I shall shew you in another place) which Circulation when Nature performs most freely, tends to growth and encrease in Wood ; but when it any way suffers a check either by Art or by Accident in the Body or Root, less vigorous and luxuriant Shoots are form'd, and consequently more bearing Buds.

(2.) As a Consequence of the foregoing Proposition, you are ever to take care to keep the middle of a Tree free from great Wood, or thick Branches ; but as these encrease and grow upon you, cut them out intirely ; there is no fear but the place will be filled up again quickly with better and more fruitful Wood. In Dwarfs you are to keep all open, intirely free from Wood, leaving only Horizontal Branches : And in your Wall Trees, if you do but take care to furnish your Wall with Horizontal Branches, Nature will make an abundant provision for the middle ; and therefore you must chuse discreetly such as are not over-vigorous Shoots, to furnish you with bearing Branches ; a defect of which, or the want of plenty of Blossoms in any Fruit-Tree, is (generally speaking) a Reproach to the Skill of the Gardener. For tho' he cannot command Fruit from Blossoms, on the account of bad and unkind Seasons, and so cannot have it *when* he pleases, yet he may in a manner have it *where* he pleaseth, and keep almost all parts of the Tree in a bearing state.

(3.) Another general Rule to be observed is, to take care your Tree be not over-full or crouded with Wood, no, not even with bearing Branches, as is too frequently seen in the management of Peaches, Nectarines, and Cherries. Nature cannot supply a sufficient quantity of suitable Juices for them ; and then the consequence will be, that none of them will be
well

well supply'd, but the Blossoms will either drop off, or the Fruit will dwindle to nothing. However, this is certain, that a convenient space between one Branch and another is most proper; a multitude and confusion of Branches crowding one upon another, producing neither so much nor so good Fruit. So, crossing one Branch over another is reckon'd very unseemly, and is indeed contrary to the Rules of Art. But yet this is not to be thought so frightful a Sight, that we must constantly avoid it; even to the suffering void Spaces and Barrenness in the Wall, which is a greater evil. A slender-bearing Branch may often enough steal behind the main Body of the Tree, or some of its larger Branches, and not offend the Eye at all; but may gratifie the Taste at the End of the Year. But still this Practice must not be made too bold with, for fear of Confusion.

Lastly, I shall only add for a general Rule, that all strong and vigorous Branches are to be left longer than weak and feeble ones on the same Tree, consequently the Branches of a sickly Tree are to be pruned shorter, and fewer in number, than those on a strong healthful Tree. Methinks I need not add that all Branches shooting directly forward from Trees growing against a Wall, are to be cut off close to the Branch from whence they come; as also all Branches proceeding from the Knob, whereon the Stalk of a Pear grew, are to be intirely taken off; but not the Knob itself. After having given these general Directions, I am perswaded an ingenious Lover of a Garden, by the help of some Observations that he must have made of his own, might manage the Business of Pruning with tollerable good success. But because there are some Peculiarities belonging to the Management of almost every kind of Fruit-Tree, (such, I now mean, as grow against a Wall) I shall

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speak

Speak distinctly and particularly to each of them, what I have found by Experience to be a good and safe Method of Pruning.

The VINE.

I shall begin with the Vine, which of all others, needs Pruning most; and tho' it is the easiest performed, yet (as far as my Observation has gone) it is least understood. Our Climate is not so favourable, or the Sun over-bountiful of his Ripening Heats, but there is Need of all the Care, and the greatest Art to cultivate and help Nature forward in bringing Grapes to any Degree of Perfection in *England*. However, this is to be done most Years with some Diligence and Skill. We will then begin with the Vine, in the Condition it is commonly left in *November*; which, if the Tree has any thing of Youth and Vigour, is confused and ruinous enough, tho' it has been carefully managed the preceding Summer, the Vine putting out the most and the longest Shoots of any other Tree. After therefore you have taken special Notice of the First and Third general Directions already laid down, you must observe this also peculiar to the Vine, That the lesser and weaker Shoots never bear any Fruit, and therefore must intirely be cut off, inasmuch as they would only tend to weaken the Tree, in drawing away that Sap that should go to nourish the Fruit-branches, which are those of the most vigorous sort; and therefore must carefully be preserved, leaving only four or five Buds or Eyes of the last Year's Shoot; for if you should leave more, they would only exhaust the Sap in vain, the first and second Eyes only bearing Fruit, and sometimes the third, from the extreme part of the Branch. Indeed, when

a Vine has put forth a more than ordinary vigorous Shoot, and you can carry it Horizontally into a void place, it will sometimes bear in five or six of the extreme Eyes, and so may be lett longer; but this is not ordinarily to be practis'd. A Vine must lie thinner of Wood than any other Tree, therefore you must carefully view what old Wood may be intirely spared, and how you can conveniently fill that Space with Neighbouring vigorous Shoots, still observing every Year to preserve the new Wood, and to cut out the old. This first pruning of the Vine may be done at any Time before *February*; but later than that is not adviseable, lest it bleed in the Spring, which it will be very apt to do at those Places where you have cut off any thick Branches.

There is also a second and third pruning to be performed on a Vine: The second is to be done about the middle of *May*, when the Bunches of Grapes are perfectly formed, and the Branch has shot two or three Foot long; then pinch off the Branch about six Inches above the Fruit, and nail or any way fasten it close to the Wall, so that the Fruit may touch, if possible. The fruitless Branches may be let alone to the third Pruning at *Midsummer*, when all must be re-examin'd; for then you are to unburthen the Vine of that Multitude of luxuriant Branches it is apt to put forth, and to shorten them to a convenient length, to let in the Rays of the Sun, towards ripening the Fruit: Tho' you are to take Notice, that it is not convenient to have the Fruit too much expos'd, for fear of cold Nights and Rains.

A vigorous Vine will still require a fourth pruning about *August*, when it will have shot out long Shoots, from the Extremity of the last Pruning; which therefore must be shortned again, and some

of the Leaves discreetly pluck'd away from before the Fruit.

There is a more than ordinary Necessity for carefully minding and managing the Vine, because all we can do is little enough to get ripe Fruit, especially some Years, and on a bad Soil: But even with both those disadvantages, with a little Diligence and timely Care, there has seldom been a Year but I have had good Grapes, and most Years great Plenty. I have try'd some Experiments for accelerating the Ripening of Grapes, as putting the Fruit in *June* into an empty Flask, and running the Branches upon the Tiles of the House, or on a Slope-wall, but neither answer'd my Expectation. The Grapes indeed ripen'd in the Flask rather sooner, but then they were apt to be mouldy, for want of free Air, and had an insipid Taste; and the Slopes, tho' they admitted more of the Sun's Rays, yet they subjected the Fruit more to the Rains, Dews and cold Nights, which (as far as I could see) overpower'd the greater Blessing of the Sun. To so little Purpose is it for Men of Theory * to Philosophize about these Matters, without having had some Experience and Knowledge in the Practice.

The PEACH and NECTORINE.

Both these require the same Culture and Management, and therefore I put them together; and if the general Rules already laid down be but carefully observed, there will not need much to be said towards the Government and successful Pruning of these, which are so apt to put forth plenty of bearing Bran-

* As an ingenious Author has done, who has wrote a Book in Quarto to shew in a Mathematical Way the great Advantage of Slope Walls.

ches after the second or third Year of Planting, that you may easily make choice of those that are good and healthful. If these Trees make too much haste to bear, *that* is a bad sign of Weakness, and they must be managed accordingly, by plucking off all or most of the Blossoms or Fruit, and pruning short. This is a very easie Management, all the Difficulty is, when a Peach is over-vigorous, ~~for~~ then Nature is apt to make great Confusion, and it requires some Skill to know what to refuse. You must therefore be sure what to chuse, and to cut out what great Wood can conveniently be spared, and what remains must be left the longer, ten or twelve Inches of the last Year's Shoot, not forgetting that in two or three Years it must be cut entirely out, when you can otherwise furnish your Wall with smaller Wood. Fruit bearing Branches, which are very easie to be known by their full and swelling Buds, are not generally to be suffered above five or six Inches. These (as I observed) are always of the weaker sort, and of the preceding Year's Shoot. You must take care to cut out all dead Wood, and yellow sapless Shoots; which that you may be sure to do, it is good for this and other Reasons to stay till the hard Frosts are over before you prune a Peach, which must be done with a sharp Knife too, otherwise Strings of the Bark will be left behind; a Pen-knife indeed is most proper for the small-bearing Branches. All Autumn Shoots must be rejected as useless and unprofitable. When you have thus trim'd and form'd your Tree into Beauty and Order, you have little else to do at it (except the thinning your young Fruit where more than two grow of a heap together) till *Midsummer*; when you must shorten the Shoots discreetly, and fasten them to the Wall, no matter in what Order, because that must be alter'd the next Pruning, only

you

you must take care to let the Fruit see the Sun as soon as 'tis partly come to its bigness, which will give it its proper beautiful Colour, and Maturity also.

After what has been here said, I cannot think it necessary to add any thing particularly with respect to the Apricot, that requiring the same Management as the Peach, except that there is no Danger of its bearing too soon, and that it is something more apt to run into Wood, which therefore must be particularly consider'd, and guarded against.

The P E A R.

There is no Tree requires the exact and careful Observation of those general Rules laid down, so much as the Pear, which in free and rich Soils is apt to be unruly and ungovernable, running altogether into Wood and luxuriant Branches. It is commonly too proud for a Wall ; but yet for the sake of that noble Fruit which some Kinds produce by the Help of a Wall, it is worth while to humble him and keep him in Order. For which purpose (besides what has been already said) I sometimes plash the most vigorous Branches, cutting them near the place from whence they shoot, more than half through, which effectually checks its Vigour, and consequently renders it more disposed to make weaker Shoots, and form bearing Buds. This Method of Plashing is also of singular Use, when you would avoid Barrenness, and have only an awkward Branch to make use of to fill the Vacancy : For by this means you may reduce it to what Order you please, so as to answer your Purpose, and reward you with Fruit. But you are to take notice that this is not to be practised on any Tree but the Pear and Plum ; the

Trial

Trial would be too dangerous on the Peach or Apricot, because they would be apt to put out Gum at those Places, and so endanger killing the whole Branch.

I am aware that many recommend Grafting the Pear on a Quince Stock, which indeed effectually cures too great Luxuriance and Growth, and may for a time answer the Purpose of bearing quickly, (which therefore may make it worth while for them that have a great Deal of Room to have some of these) but they are not long-liv'd do not bear such fair large Fruit, nor make such handsome regular Trees, as those grafted on a Pear Stock, which I therefore chuse to recommend to all those who have not Room to try doubtful Experiments.

You will easily distinguish the bearing Buds of a Pear-tree, as soon as the Leaves are off in *November*, which are much fuller and more swell'd than others; which is to be carefully minded, that you do not cut them off in your Pruning. All false Wood, or, as others call them, Water-shoots, are to be taken away, being easily distinguished by their having Eyes at much greater Distance than ordinary from one another: These are found in most vigorous Trees, especially Peaches. The Cock-spur is also to be taken off, *viz.* the Extremity of the last Year's Pruning. It is to be managed as the Peach in the Summer.

The FIG.

As this Fruit is commonly little known, and less valued by any, but those who have *Gustum Eruditum*, (in *Petronius's* Phrase) so, (as far as my Observation has gone) the Management of the Tree seems to be as little understood. For as I have hitherto given

Directions

Directions for the right Pruning of other sorts of Trees, so I must here direct and recommend the not Pruning at all. The not understanding of which has, to my Knowledge, been the Occasion of that Barrenness, so visible in many Noblemen's and Gentlemen's Gardens. There is no Tree that doth generally produce more certain and plentiful Crops than this, if it be rightly manag'd, or rather if you keep the Knife from it.

But when I say it must not be pruned, I only mean that its tender Branches are not to be shortned, as in other Trees ; because it is plain it puts forth its Fruit chiefly at the Extremities of the last Year's Shoot, commonly at the three last Eyes ; any part of which if you take tway, you cut off and destroy so much Fruit. But yet this must not be suppos'd to hinder you from taking out the great Wood entirely, to avoid Confusion, and also to cut some of the weak smaller Shoots close to the great Wood, these being of no Use but to exhaust Sap. Whatever therefore you cut from the Fig, you must do it as close to the Root, or any great Wood as you can, and that no earlier than the latter end of *March*, for fear of Frosts and cold Rains : Only it is advisable to tack its best and biggest Branches close to the Wall in *November*, that they may be the better shelter'd from the extreme Frosts in the Winter. Be sure to keep it free from Suckers, which this Tree is apt to put forth plentifully. And I think there need nothing farther to be said for the Government of this Tree, if the three first General Rules be but observed as they ought.

Cherries and Plums require little Skill to make them bear against a Wall in almost any Soil, and therefore there needs nothing to be added to the general Observations laid down. I shall only take Notice

tice before I conclude this Chapter, that both Winter and Summer *Bon-Cretien* Pears want more Room to spread and extend themselves than any other; and therefore if you expect them to bear, you must allow them Elbow-Room and Height too; for if you should confine them by short Pruning, they will grow Knotty, and full of Wood without Fruit. I have my self seen the Summer *Bon-Cretien*, in the Garden of my worthy Friend Dr. *Wickart*, now Dean of *Winchester*, bear plenty of noble large Fruit, betwixt twenty and thirty Foot high. There also I have eaten excellent Figs, from a prosperous Tree, even the same that afforded some to King *James I.* near a Hundred Years ago, as appears (I think) from a *Memorandum* on the Wall.

C H A P. VI.

Of GRAFTING and INOCULATING.

THESE two Operations in Gardening are pretty Philosophical Entertainments to a Lover of Curiosities in Art and Nature; and therefore, tho' they have been fully treated of by others, yet because they make up so great a Part of a Gardener's Diversion and Pleasure, at two several Seasons of the Year, I shall describe and explain the Method of performing both distinctly, that this small Treatise may not be thought defective in so considerable a Point.

There are several ways of Grafting, but I shall mention only two, that I think most proper to the several Kinds of Trees. The first is that common way of Slit-grafting, which is performed on Pear, Cherry, and Plum-trees, especially if they are of any bigness; by first chusing a smooth place in the

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Stock

32 *The Pleasure and Profit of*

Stock where you would graft, cutting the Head off slopewise; then *even* the Top of the Slope Horizontally with your Knife, making a Slit down the middle of the Stock discreetly with a strong Knife, or otherwise; then prepare your Scion taken from a vigorous Shoot of the foregoing Year, sloping it on each side from a Bud or Eye, so that it may conform it self to the Slit in the Stock, the Bark of Scion and Stock closing exactly. Let it be daub'd pretty thick over with Clay, temper'd with short Hay, taking care not to disturb the Scion, which must not be left with above three or four Eyes above the Stock. The other way is much preferable to this, but can ordinarily be performed only on Apples and Hollies, the Bark in others not handfomely parting from the Wood, as it must. The way is to cut off the Head of the Stock slopewise, &c. as before, and instead of flitting the Stock, slit only the Bark a little above an Inch on the back-side of the Slope; then prepare your Scion made with a flat Slope about an Inch long, ending on a Point, and begun from the back-side of an Eye; but because it may disturb the thin end of the Scion, to raise the Bark of the Stock, where you made the Slit, get any other piece of smooth Wood cut slopewise as the Scion, and thrust it down betwixt the Wood and the Bark, which you will find readily to part, and then put in your Scion ready prepared, the Top of the Slope being thrust as low as the Top-surface of the Stock. Clay it over as before, and leave as many Eyes. This I find to be almost a never-failing way for Apples and Hollies; and I prefer it to the other, because it doth not give so grievous a Wound to the Stock by flitting it, which sometimes proves fatal. Besides, in this last way, the Scion does much sooner heal over and cover the Stock, whereby the Union is entirely compleated.

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The first Operation must be perform'd on Pears, Cherries, and Plums, the latter End of *February* or beginning of *March*, but Hollies and Apples must not be grafted till the beginning of *April*; it is convenient that your Scions be cut off a Fortnight or three Weeks before you use them, and laid in the Shade.

But notwithstanding both these Ways may prove safe and proper Methods for propagating those several Kinds of Fruits, yet I much rather prefer, and therefore recommend that other Operation, called Inoculation or Budding, the Method of which I shall now describe: Cut off a vigorous Shoot from a Tree you would propagate any Time a Month before, or a Month after *Midsummer*; then chuse out a smooth Place in your Stock (which should not be of above three or four Years Growth) making a downright Slit in the Bark of it, a little above an Inch long, and another cross-wise at the bottom of that, to give way to the opening the Bark. Then with your Penknife (not too sharp at the Point) loosen gently the Bark from the Wood on both sides, beginning at the bottom; which done, prepare your Bud taken from the aforesaid vigorous Shoot, which must be cut off with a sharp Penknife, entring pretty deep into the Wood, as much above as below the Bud, to the Length of the Slit in the Stock, as near as you can guess. After the Bud is thus cut off with the point of the Pen-knife and your Thumb, take out the woody part of the Bud; and if, in doing this, the very Eye of the Bud come out, and leave a deep Hole, throw it away, and take another. Then put this Bud in between the Bark and the Wood of the Stock, at the cross-slit already opened, leading it upward by the Stalk where the Leaf grew, 'till it exactly closes: Then bind it about with coarse Woollen Yarn, the better to make all parts of it close exactly, that the Bud may incorporate

porate it self with the Stock, which it will do in three Weeks time, when you must loosen the Yarn, that it doth not gall the place too much, as it will be apt to do in a vigorous Stock. This Operation is best perform'd in a cloudy Day, or at an Evening; and you are to observe, the quicker it is done, the better it will succeed. For tho' a pretty many Words are necessary to describe the Method of doing it, yet after a little Practise, and that you are become ready at the Work, thirty Inoculations may be done in an Hour: But you may take Notice, that it is convenient to put in two or three Buds into one Stock, especially Peaches and Nectarines, that you may have the better Hazard of having one Hit, which is enough.

Peaches, Nectarines, and Apricots, are not to be raised any other way but by Inoculation; and as for Pears, Cherries, Hollies and Plums, tho' (as I have shewn you) they may be Grafted, yet I prefer Inoculating them, for these following Reasons.

(1.) Because it is the surest and less hazardous way; nay, if the Stock be but vigorous, and not over-big, it is almost a never failing way; for by putting in two or three Buds into one Stock, it will seldom so happen but one of them will hit, and that's enough; whereas in Grafting you are forc'd to make a dangerous Experiment, by cutting off the Head of the Stock; and if the Scion do not take, the Season is lost, and your Stock maimed.

(2.) I prefer Inoculation, because it may be performed by any Gentleman himself, with more Pleasure and less danger to his Health. It requires no daubing with Clay, only a Penknife and a little woollen Yarn, which are both portable, and therefore always ready to be made use of, whenever his Meditations shall give way to his Pleasure. Besides, this

this Operation is perform'd in Summer and warm Weather, when it is healthful as well as pleasant to be busied in a Garden with some such little Amusement. Whereas the Season of Grafting is in the Spring, when there is more Danger of taking Cold in a Nursery, where you must expect wet Feet and dirty Hands.

Lastly, if you begin to bud in *June*, and you find it doth not succeed, (as you may find in three Weeks) you may make a second Attempt the same Year on the same Stock, and that with very good Success: For in some cases a Disappointment is very undesirable; as when you would change the kind of Fruit on a Stock against the Wall, the sooner your End is compass'd the better.

However, if you are forc'd to practise upon large Stocks, you must be content to graft, because when the Bark is become thick and stubborn, it will not readily part, nor so handsomely close upon the Bud. But if the Graft happen to miss (as it will be very apt to do in large Stocks, if you do not take care to leave a leading Branch to carry up the Sap which would otherwise choak the Scion) those slender Shoots which shall be made near the Grafting-place will do right well to inoculate on, sometimes even in the same Year.

The Cherry, Plum, and Pear, but especially the latter, if the Stocks be any thing vigorous, almost never fail to answer your Expectations in Budding; and there is one more Advantage here, above what can be had in Grafting with respect to the Plum, *viz.* That you may inoculate pretty surely any Plum on a Damson, or Wild-Plum-stock, which yet will be sure to fail you if you Graft on it. But yet this General Rule is always to be regarded, with respect not only to this, but all other Stocks; that

that 'tis a vain Expectation to hope for Success if the Sap do not run well (as we say) that is, if the Bark will not readily be persuaded to part from the Wood of the Stock by the help of a Penknife.

No sort of Fruit is more untoward, and more apt to deceive you in Budding than the Apple, because the Bark is not so ready to part as in other Fruit. Yet I have my self practis'd it several times with Success on vigorous Shoots put forth near the Place where the Graft failed.

Any time between the beginning of *June* and the latter end of *August*, Allowance being made for different Seasons, you may inoculate most Trees; nay, I have several times Inoculated Pears in *September* with good Success. But it must be taken notice of, that the Branch or Shoot which you make choice of for Buds to inoculate with, must not lie by any time (as in Grafting) but must be immediately made use of, as before directed.

The several Kinds of Oranges, Lemons, strip'd Philarea's and Jessamines, are to be propagated by Inoculation. And now I mention the Jessamine, I cannot but take Notice to you what a noble Demonstration the yellow strip'd Jessamine has afforded us, of the as certain Circulation of the Sap in a Tree, as of the Blood in the Body of an Animal; which matter, altho' it has been believ'd by some, yet it has been denied by others. And therefore because it has not as yet (as far as I can learn) been brought to any Certainty or Demonstration, I shall here relate the Means of this noble Discovery by virtue of Inoculation.

Suppose a plain Jessamine Tree, spreading itself into two or three Branches from one common Stem near the Root. Into any one of these Branches in *August* inoculate a Bud taken from a yellow strip'd Jessamine,

Jessamine, where it is to abide all Winter ; and in the Summer, when the Tree begins to make its Shoots, you will find here and there some Leaves ting'd with Yellow, even on the other Branches not inoculated, till by degrees in succeeding Years the whole Tree, even the very Wood of all the tender Branches, shall be most beautifully strip'd and dy'd with Yellow and Green intermix'd. It is not material whether you cut off the Branch above the Inoculation to make the Bud itself shoot ; for it will have the same Effect of tinging by degrees all the Sap of the Tree, as it passes by or through this Bud, and communicating its Virtue to the most distant and opposite Branches, tho' the Bud it self should not shoot out. Nay I have my self several times experienc'd that if the Bud do but live two or three Months, and after that happen to die, or be wounded by any Accident, yet even in that little time it will have communicated its Virtue to the whole Sap, and the Tree will become entirely strip'd. This Discovery undoubtedly proves the Circulation of the Sap. Q. E. D.

What further Uses and Observations may be made from hence, I leave to other Philosophical Genius's and curious Enquirers into Vegetable Nature ; and shall only add to this Chapter, that when you find in the Spring, or the time when the Tree begins to shoot, your Inoculation takes, and the Bud looks green and fresh, you must not forget in all Cases (except this of the strip'd Jessamine) to cut off the Head of the Stock slopewise, about an Inch above the Bud, the slope ending on that side where the Bud is. It may not be amiss also to add, that where you put in more than one Bud, it is not convenient to place them just one above another, but sidewise.

C H A P. VII.

Concerning the proper Disposition of Trees against a Wall; the best Kinds of each; their Order, and Time of Ripening.

IN speaking to these several Points, there are great Allowances to be made for the great variety and difference of Soil, which as to the ripening and perfecting of Fruit has more in it than most People are aware of. For I question not but a good Soil, *viz.* a rich, deep, sandy, mix'd Earth, in fifty four Degrees of Latitude, will do more towards accelerating the Ripening the best Fruit, than a bad one, *viz.* a stiff cold Clay, will do in fifty one. And so a North-west Wall in an extraordinary good Soil will do as well for a Burree or a Vine, as a South-west Wall will do for the same in a bad one in equal Degrees of Latitude. The Rules therefore that I should lay down must be calculated for the common State and Condition of most Places in *England*, which generally want all the Advantages that Art can give them to Ripen the best and latest Fruit. Most that know any thing of Gardening can tell, that a Peach, an Apricot, and a Vine are to be set against their best Walls; but as for Figs and Pears, tho' of the best *French* sort, they are ordinarily crouded into any Corner, or against a North-East or North-West Wall; whereas in Truth many of them deserve the very best Place in the Garden, especially in such a Garden as lyes upon the moist Clay, which yet may be made, by the Directions already laid down, *Chap. I.* agreeable enough to the best Pears, Figs, and Plums. And truly those who
have

have the Misfortune of a cold Soil, I cannot but advise not to strive too much against Nature, in aiming to have the late Frontiniack Grapes, or the choicest Peaches, especially if they lie open and unguarded from the cold Winds, their Expectations will be quickly tired with watry unripe Fruit; whereas if they did but suit their Soil with proper kinds, they might be rewarded with something good: For I am of Sir *William Temple's* Mind, that a good Plum is much better than a bad Peach.

As to an exact and proper Catalogue of the best kinds of the several sorts of Fruit, no other can be expected than what the Author most approves of himself, who, in this case, can be supposed to act no otherwise than is common with a Physician as to his general Rules and Directions in Diet for preserving Health, *viz* to prescribe what he loves himself. If then there is not found in this small Catalogue (suited to the Garden and Persons designed) that particular favourite Sort which some Persons may expect, let it not be concluded that all others but what are here named are condemned as naught; but rather that it is thought adviseable not to perplex a Lover of Fruit with an unnecessary number and variety of sorts, when he has room only for a few good ones of each Kind. He that has room, and would encrease his Collection, may have recourse to *Montieur Quintinye*, or to the Abridgement by Mr. *London* and *Wise*, and he will quickly have his Curiosity satisfied. In the mean time I shall satisfy my self with such a Collection as seems most proper and suitable to the Garden I am supposing. But before I begin it, I ought to say thus much first, That it must not be thought strange, if sometimes the Fruit here recommended do not answer, but prove watry and insipid, there being a certain agreeableness of

G

Soil

40 *The Pleasure and Profit of*

Soil peculiar to almost every kind of Fruit ; at least thus much is certain, that a good sort of Fruit may prove bad in such a Soil as will make another good sort excellent in its kind ; and the best Peaches may prove bad, where Pears and Apricots will excel ; neither ought we too hastily to conclude and give judgment against what may only prove bad from an unkind Season. But when it is found by Experience that the Soil and the Kind do not agree, the best way is to lose no more time, but either prepare another for his place, or alter the sort by Inoculation, which is very easy and quickly to be done, if the Stocks be good, and not too big.

The best Peaches to be planted against a South-Wall, (or inclining to the East or West) as follow in the Order of their Ripening :

The White Magdalene,	}	<i>Ripe.</i> Middle of <i>Aug-</i>
The Minion,		<i>gust.</i>
The Right Old <i>Newington</i>	}	Beginning of
The Chevreux,		<i>September.</i>
The Admirable,	}	Middle of <i>Sep-</i>
The Nivet,		<i>tember.</i>
The Red Roman Nectarine,		Middle of <i>Sept.</i>
Apricots will do against East and West-Walls.		

The Masculine Apricot,	<i>Ripe.</i> Middle of <i>June.</i>
The Orange Apricot,	Middle of <i>July.</i>
Figs must be planted against a South-East or South-West-Wall. Only two sorts good,	
The White Fig,	} End of <i>August.</i>
The Long Purple Fig.	

A Catalogue of the best *French* Pears that require the best Wall and Aspect you can give them, and will not be ripe till some time after they are gathered.

Ripe.

GARDENING, *Improv'd.* 41

Ripe.

The Summer Bon Cretien,	Beginning of <i>Septem.</i>
The Buree du Roy	End of <i>Septem.</i>
The Verte-Longue,	<i>October.</i>
The St. <i>Germain</i> ,	<i>Novem.</i>
The Spanish Bon Cretien,	<i>Novem.</i>
The Ambret,	<i>Decemb.</i>
Colmar,	<i>Decemb.</i>
Chrysan,	<i>Decemb.</i>
The Winter Bon-Cretien,	<i>March.</i>

Some other good Pears that will do on North-East or North-West Walls ;

The Orange Bergamot,	}	<i>September.</i>
The St. Katherine,		
The Roufellet,		
The Black Pear of Worcester,	}	for Baking.
The Pound Pear,		

Peculiarly good for Dwarfs ;

The Swan's Egg,	[<i>Nulli secundum</i>]	<i>October.</i>
The Bergamot,	}	both well known
The Windfor,		

in *England.*

The foregoing sorts, recommended for North-East and North-West Walls, will also do well for Dwarfs, if Occasion be ; as there are also many other sorts might be added : but needless Varieties I recommend not.

It is very adviseable to plant in such places as are most exposed to Comers and Goers, those Kinds of Winter-Pears that are hard and unpalatable, whilst they are on the Tree ; otherwise the Owner will reap little else but Disappointment and Vexation. That side of the House, or indeed any of the Out-houses, which is exposed to the South, will do singularly well for the Ambret, the St *Germain's*, but especially for any of the *Bon Cretiens*, (except the Summer, which is too tempting) these loving

room and height ; and as delicious Fruit as they are, will not abide to be tasted a second time, when newly taken from the Tree. The Winter *Bon Cre-tien* is remarkable for keeping longest, and all the sorts of them are as remarkable for answering so well the Purport of their Name *Bon Cre-tien*, or *Good Christian, Sound at Heart*; (the right sort, alas! hard to be met with.) for as in time they begin to decay and rot in the outward Parts or Pulp, so it is observ'd that the Core or Heart continues generally sound to the last.

There are several sorts of Grapes, and most of them in some good Years will ripen in *England*; but I think the white Muscadine, and the black Cluster Grape, are the only sorts that one may depend upon, to have some pretty good, almost any Year. I need not say that all of them expect the best Wall and Aspect we can give them, to help them to that Maturity and dulcedinous Juice which make it either pleasant or safe to eat them in any Quantity. But let the Wall or Aspect be never so good, yet I must repeat it, that if it lie open and expos'd, without any break of Hills or Wood at a Distance, you will certainly be deceiv'd in your Expectations of good Fruit.

The White Raisin-Grape, admirable for Tarts, where there is Room enough.

There are also a great variety of Plums, and some of them so good as to deserve the best Walls, as the blue and white Perdrigons and Imperial Plums; but such as follow are those I recommend for Dwarfs, Standards, or North-East and North-West Walls:

The Orleans,

The Muscle,

The Queen-Mother,

The Damascene,

The Violet,



Plums.

Fothering,

Fothering, a good Bearer, fine Plum.

Perdrigon, blue and white, very good.

Le Royal, the best Plum that grows; but a bad bearer.

Drop of Gold, a yellow Russet, good.

The white Bonum Magnum, } for Baking.
The Pear Plum,

The Damson every one knows to be good, and it is to be raised from the Stone, or by Suckers without grafting, best a Standard. There are many other good sorts which I mention not, because they are generally idle ill Bearers.

Most Cherries will do on Dwaifs or Standards, but are mended against a Wall: As,

The Orleans or Bloody Heart, } on East or West
The *May-Duke*, } Walls.

The Morella on a North Wall.

But the Common Flemish is quite spoiled against a Wall.

It will be necessary before I conclude this Chapter, to add, That the time of Fruit's Ripening is very different in different Years; and tho' I have fix'd the general time, yet it must not be wonder'd at, if a bad Year make some Fruit, especially Winter-Pears, a Month or two later, before they come to their Maturity; only I have observed, when they much exceed their usual Time of Ripening, they are never so good, and have not their true rich Taste.

N. B. When it is advised here, to plant such a Tree against a South Wall, if that Wall happen to decline some few Degrees to the East or West, it is never the worse, but altogether as good, provided the Declination be not above fifteen or twenty Degrees, because in that Case the Wall would enjoy the same Time, and as many Hours of Sun-shine: But when I say an East and West Wall will do for

44 *The Pleasure and Profit of*

an Apricot, 'tis suppos'd that there is not the least Declination towards the North; for that would wholly defeat the Design and Expectation of the Planter; so that if it have any Declination, it were to be wish'd it had it toward the South.

N. B. An East Aspect is better for all sorts of Fruit than a West; not that it can be suppos'd to have more Hours of Sun-shine; but because the early Rays of the Sun take off those cold Dews which are apt to fall and hang upon Fruit in the Night, which in the Case of a West Wall, are not taken off till later in the Day, and consequently the Fruit is more subject to be chill'd. Whether this will be thought a good Reason, or the only Reason, I cannot tell; but thus much is certain in Experience, that an East Wall is better and kinder for all Fruit, than a West; and I cannot easily be brought to believe that there are any peculiar inherent Virtues and Qualities in the Eastern Rays of the Sun, that should cause this Difference in Vegetation.

N. B. I have said nothing about the Management and Culture of Raspberries, Strawberries, Gooseberries, and Corants, because little Skill is required, besides this one Rule, that they are not to stand too long in a Place, nor above four or five Years before they be renewed, especially Strawberries, which must be kept clear from Runners all the Time of their Bearing.

N. B. It is of very mischievous, if not dangerous Consequence, to let Rosemary grow too near any of your Fruit-Trees, especially if they be young; for that will not fail to rob them of so much of their proper Nourishment, as that they will be infallibly weaken'd, if not in danger of being kill'd.

The CONCLUSION.

I Have now gone over some of the most considerable Particulars relating to the Art of Gardening, and (I hope) not *mal à propos*. Thus much, at least, I have endeavoured, To speak intelligibly, to lay down my Rules and Observations, in a tolerable Method, and to avoid unnecessary Prolixity : All which I have constantly had in my Eye, that I might in some Degree attain the End I aim at, *viz.* To make those Persons (especially those of my own Order) who may not have had so much Experience in this particular Science, in love with so innocent, so agreeable, and so profitable a Diversion.

I might have added (as some others have done) a Chapter about the several Diseases which the different sorts of Trees are subject to ; but except a proper Remedy were also added, it is to little purpose to mention the Disease: And as far as my Observation has gone, I plainly perceive most are incurable, and therefore have always chose to have Recourse to my Nursery for another to put in the Place. The Gum and Canker are plainly incurable, and the part affected must be cut off, except there remain a sound part sufficient to convey the Sap: Wet cold Soils are most subject to these ; and therefore in such Case, the best preventing Physick you can give, is to plant high. Moss shou'd be carefully rubb'd off with the Back of a Knife, or piece of Hair-cloth, after a Showre of Rain.

Because both Grass and Gravel-Walks are so much the Ornament and Beauty of a Garden, and do afford so considerable a Pleasure, to a thoughtful, contemplative Person, I cannot but here insert a speedy effectual Method of destroying Worms, those filthy Annoyers and Spoilers of the Beauty of all Walks.

At any Time in Autumn, fill a Cistern or any large Trough with Water, putting therein a large Quantity of Walnut-Leaves, where let them steep at least a Fortnight or three Weeks ; in which Time the Water will have received such a Bitterness, that if you pour gently a small Quantity of it on such Places as are most annoyed with Worms, by that Time the Water can be supposed to reach them, you will find the Worms hurrying in great Confusion out of their Holes, so as to crawl in great Plenty under your Feet upon the Ground, where they may be gather'd up and thrown away. They may indeed be taken by a Candle and Lantern in a Summer's Evening after Rain ; but this may be practised at any Time in the Day with pleasure, and it will certainly destroy them, if it be but carefully practised and repeated : Only
be

be sure to put Walnut-Leaves enough, that the Water be very bitter, otherwise it will do no good.

It is very convenient to have such a large Cistern or Stone-Trough, as I here speak of, as for the foregoing Use, so also for a Treasury of Rain Water, wherewith to refresh your Flowers and new-planted Trees in the Droughts of *April* and *June*. And for this Reason it should be fix'd under such Parts of the House where the greatest Plenty of Rain-Water is made to descend, where also it will be found to be not a little serviceable to the Family in the Winter. And if it shall be thought difficult (as indeed it is) to procure such a sort of Stone as will endure the hard Frosts in the Winter; as a Remedy for this, I my self made an Experiment upon a very brittle Stone-Trough, which the Mason murther told me would not endure the Frost, and it succeeded according to my Expectations. I used it for salting Meat in the House, for two or three Months, till I thought it was thoroughly soak'd with Brine, and then set it abroad, and it has already endured six Winters, and defied even the great Frosts in 1708.

N. B. I have said nothing concerning Apples, because they are generally Standards, and require little Art to manage them; and if they are Dwarfs, must be ordered as Pears. It would be endless to mention the best Kinds; For those are the best, that are best and most prosperous in that particular Soil and Place: each County having commonly its known and peculiar sort of Apple, which they call Best, which would not, it may be, prove best in another.

F I N I S.

THE
Gentleman's Recreation;
 OR THE
 SECOND PART
 OF THE
 ART of GARDENING
 IMPROVED.

Containing several New EXPERIMENTS
 and Curious OBSERVATIONS relating
 to FRUIT-TREES:

Particularly, a New METHOD of building
 Walls with *Horizontal Shelters*.

Illustrated with Copper Plates.

— *Si quid novisti rectius istis,
 Candidus imperti; si non, his utere mecum.*

Hor.

By JOHN LAURENCE, M. A.
 Rector of Yelvertoft in Northamptonshire.

To which is added by way of APPENDIX, A new and
 familiar way to find a most exact Meridian Line by the
 Pole-Star; whereby Gentlemen may know the true
 Bearings of their Houses and Garden Walls, and regulate
 their Clocks and Watches, &c. By Edward Laurence,
 Brother to the Author of this Book.

The Third Edition.

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THE PREFACE.

THE Encouragement and favourable Reception which my former Treatise of Gardening hath met with in the World, makes me here engage a second Time on the same Subject, and venture to enlarge on some Experiments and Observations, which the Nature of that intended short Essay suffered me only just to touch upon.

I was afraid of engaging too far at first. lest I should not be able to make an honourable Retreat: But since the Gentlemen as well as Clergy, have been pleas'd to accept and like what I have delivered in a plain and familiar manner, and have generally honoured it so far as to complain only of its Brevity; Decency and good Manners oblige me to remove those Complaints, and to address my self now to the Gentlemen, as I have already done to those of my own Order, persuading them also to love a Garden by the same Two powerful Motives of Pleasure and Profit.

The P R E F A C E.

The Apology for engaging in these Matters as a Clergyman, I will not repeat, because it hath been very kindly admitted: Neither indeed do I look upon this Science so remote from the Business of a Clergyman, as is generally thought. It is a mix'd Subject; and the Moral is, as it were, interwoven with the vegetable World. Man having an active, busy Principle within him, it is of great Consequence what Sort of Entertainment and Exercise of the Mind he chooseth; for, according to that Choice, he either dignifies or dishonours his Nature,

It is no small Felicity to a Man, when his Pleasure tends also to his Perfection. For most Men's Pleasures are such as debase their Natures; and we commonly gratify our lower Faculties, our Passions, and our Appetites; and these do not improve, but depress the Mind.

All the extravagant Pursuits of Ambition and Avarice, of Lust and Revenge, of Luxury and Intemperance, do of themselves tend to debase Man's Nature, and sink it down into a great Resemblance of that of the Beasts below him. Whereas on the other Side all the manly Exercises of Reason and Religion, of Devotion and Contemplation, of Justice and Charity, give such Beauty and Lustre to human Nature, that it is raised thereby to a very near Resemblance of the Angelick Order: So that indeed according to the Way of Life, such is Man's Nature; either made worse, or much improved.

'Tis true, we know not the Nature and Laws of the Union of Soul and Body, and therefore cannot easily determine how the Thoughts of our Minds and the Motions of our Bodies act in Dependence one upon another. We know not what are the primary Differences of Genius's and Complexions, and how our Intellectuals or Morals depend upon them. But I have often thought, there are
many

The P R E F A C E.

many Ideas of Pleasure, that have lain buried in the Ruins of corrupt Nature, for want of being early roused, and made to exert themselves by proper Objects, before the over-bearing Power of sensual Delights hath taken Place. And therefore I question not, but we might soon see a more virtuous and enlighten'd Age, if it were but rescued from the intolerable Trammels of Logick and Rhetorick, the Aversion and Bane of Youth, and some of the easy Parts of Natural Philosophy, Practical Mathematicks, and Gardening Operations substituted in their Place: By which Means, young Persons may be discreetly tol'd on by easy and familiar Methods, in all such innocent Exercises of the Mind and Entertainments of Life, as may probably lay a Foundation for a contemplative Genius, and produce a virtuous and useful old Age.

Had Man continued in the Garden of Eden, as he came out of the Hands of his Maker, I doubt not at all but Contemplation and Devotion would have been his chief Exercise and Delight; as most suitable, not only to the State, but to the Place of Innocence: And I as little doubt, that if Angels were confined to these lower Regions, they would seek the Retirement and Pleasure of a Garden, as most agreeable to their heavenly Dispositions.

* How soon and in what manner a Palingenesia or Renovation of Things is to be expected in the Millennium is not my proper Business here to enquire: But thus much is to my present Purpose to say, that the more we accustom our selves to the several intellectual Pleasures of Meditation, Contemplation and Devotion, the sifter shall we be to regain Paradise; those divine Exercises raising
Men's

* Isa. 65. 17. Mat. 19, 28. Act. 3. 21. 2 Pet. 3. 13. Rev. 10. 4. Ch. 21. 1, 2, &c.

The PREFACE.

*Men's Minds into a greater Similitude of the divine Nature, that so, in Irenæus's * Sense, paulatim assuescant capere Deum, they may by Degrees accustom themselves to receive God.*

The Exercise of a Garden and the Entertainments of Contemplation will appear still the more desirable, if one considers how difficult and dangerous a Thing Conversation is now become, and indeed made so by the corrupt Passions and Humours of Mankind. For how difficult is it, for even the wisest and most cautious Man, to start a Subject in Conversation that shall be pleasing and inoffensive? To talk of the Weather is low, mean and peasantly. To extol the Excellencies of Friendship, and to enumerate one's Friends is good; but how hard are they to be met with? To rail at our Enemies, and to detract from those we envy, how unchristian is that Practice, and truly Offensive to a great and generous Soul? And then I suppose I need not tell a thinking Man the Uneasiness of being ty'd to the impertinent Conversation of such, as can talk all Day and say nothing.

Indeed the Subject of Philosophy, or any real useful Point of Learning, is pretty, if one could but ordinarily hope to find Philosophers or learned Men. Besides, (shall I not say?) It is not every Point of Learning that must be started or will be born with. Divinity for instance; especially any of the more nice and abstruse Points thereof, is one of the Noli me tangere's. Articles of Faith explain'd, which the Church is in Possession of, are held by a Sort of entailed Right from the fourth Century down to the present Times: How much improved, I will not say. Infallibility is indeed plainly disclaim'd by Protestants; but yet, strange as it may seem, an indisputable Authority in the Church will be maintain'd, and

The P R E F A C E.

and private Persons will not be suffered to doubt of, or dispute so sacred a Thing as a long Tradition.

What now is to be said to these Things? Learned Men are not to be met with every Day, and Texts of Scripture are already sett'ed: There remains hardly any general Topick of Discourse but Politicks; and yet tho' every one pretends to much Skill in it, that of all others requires the greatest Prudence to enter into it, or to manage it without Danger of Offense to one Side or other. For except a Man can resolve to be thorough-paced, to go through thick and thin with a Party, he will hardly escape being charged with want of Zeal or want of Courage; tho' all wise By-standers may easily perceive, that there are Numbers of both Parties will run into very unjustifiable Extreams. The Church, without any certain Idea or determinate Meaning of the Word, is always made the outward Mark of Zeal of one Side and t'other: And if the Measures that are concerted for the promoting her Interest are not lik'd, you will not fail to be branded (if not for an Enemy to the Constitution, yet) for a Renegado or a False-Brother.

Who would now chuse to thrust himself into Company, when Company and Conversation are become so ensnaring and dangerous to an honest Man? I confess, if Preferment be the Thing a Man aims at, as what he either wants or waits for, if he have but Wit and Parts, he may in Time compass it, by going all the Lengths of a Party: But I am now speaking to Gentlemen of Honour and Probity, who would serve their Country by those two Principles, and themselves with every Thing that is innocent, safe, and entertaining. And shall I need to tell such, that all the best and noblest Entertainments are to be met with in a Garden? There a Man may converse with his God, by contemplating his Works
of

THE PREFACE.

of Wonder in each Flower and in every Plant: And then the devout Admirer cannot but lift his Eyes and his Heart in Praise of the great Creator of all Things.

There a Man may converse with himself, and consider, that whilst he is uncorrupted by vain Conversation, whilst he is busie and innocent, his Garden is his Paradise, a Sort of Heaven upon Earth, that gives him a Disdain to those low sorry Principles of Ambition and Avarice, that hurry on other Mortals to pursue the vain Phantoms of Honour and Wealth.

Others may plot, dissemble, and struggle to get Authority and Power, and All, it may be to no Purpose too; but here a Man is Lord of All, the sole despotick Governor of every living Thing. The tallest Cedar, as well as the lowest Shrub, is subject to his Government and Care. Faults may be found and mended without any repining or starting at Alterations. The Wanderer may be reduced, and the Crooked made strait by easie and gentle Methods: And because the Strength and Prosperity of any Government consists in the Multitude of People, the Barren may be made to rejoice in a numerous Issue.

In short, whatever Government even the Fancy can paint to him to be either better or more beautiful, that Form is presently submitted to. This is no imaginary Pleasure neither, but real and personal; a Garden affording such pleasing Morals in all the Parts of it, that nothing but the greatest Stupidity could carelessly pass them by unapply'd.

However, it is not my Business here so much to act the Part of a Divine as the Politician; not so much to direct the Application of these Things to the Mind, as to lay down such Rules of Government, as may serve to heighten the Satisfaction of a thinking Genius: A Man must needs of course form pleasing Ideas to himself, when he

The PREFACE.

he finds Heaven and Earth, Art and Nature all conspire to make him happy in his Retirement, and each Subject of his Care to make obedient Returns of Profit and Increase.

I own my self to be no Judge of Politicks out of a Garden, as what I take to be none of my Business; and whether in it I have drawn any pleasing Picture of Monarchy, or said any Thing to the Purpose of good Government, I must leave to the Judgment of all those ingenious Gentlemen, to whom I here address my self; and shall only add, That I have the rather perswaded my self to engage in this Subject with this View and Hope; that what I have said of the Pleasure and Profit of a Garden, may in some Degree serve to abate the prevailing Vices of Ambition and Revenge, and re-instate a more manly Pleasure, in the Room of some boisterous Exercises and fashionable Diversions, which too often end in the dishonour of Almighty God and our Holy Religion.





T H E

Gentleman's Recreation :

Being a SECOND PART of the Art of
GARDENING Improvcd.

The INTRODUCTION.



NOTHING is of greater Consequence to any Gentleman that is a Lover of a Garden, than to have a Piece of Ground near him of a pliant, fertile Nature a Soil easy and kind to all sorts of Trees and Plants, either natural or made so by Art ; because then he has the Pleasure of seeing every thing prosper and flourish, that he either sows or plants. Whereas the Want of such a Blessing gives continual Uneasiness to him that has waited long, and still waits in vain for the desired Fruits of his Labours ; especially if it hath been attended with

with great Cost and Charge ill apply'd. Happy indeed are those Persons that have a good Soil, where Nature itself performs so liberally, that there needs little Labour, Cost or Care to make both their Kitchen and their Fruit Garden to abound with Plenty of every thing best in its kind; such Persons are not so much concern'd with what I have here to offer to the World, as those are, who have many other Difficulties and Discouragements superadded to the constant and necessary Care required in a Garden either of Pleasure or Profit. However I flatter myself the following Instructions may give some general and useful Hints to such a Genius; as loves to improve and assist Nature, and has a true Relish of the Beauty of Prosperity and Plenty in a Garden. For which Purpose I have always endeavour'd to consult the Inclinations of Nature, that the most natural Methods might be taken to have the most and the best of its Products. For I think 'tis a Rule amongst Naturalists, that we should follow Nature and not leave it. Though we may do many things, which Nature would not or could not do; yet we are never to hope for success if we do any thing contrary to Nature.



* I could never understand, why some Persons should take so much Pains to invert the Order of Nature, in making the Branches of some Trees take root, and then dig up the Roots to convert them into Branches; which if it could be done, so as to continue, could be of no manner of use; and must be reckoned among the *Difficilis Naga*. The like may be said of those Attempts of grafting Apples on Pear Stocks, or Vines on Cherries, &c.

In my former Treatise on this Subject I endeavoured, not only to speak plainly and intelligibly, what I thought proper to assist Nature in all its Productions ; but also to range what I said in Order, and put it into some agreeable Method. Whereas in this, which I design rather as an Appendix to the former as it consists of some additional Improvements and Observations, I hope it will not be expected that I should observe a very exact Method. All those ingenious Gentlemen, for whose sake I have been persuaded to communicate some farther Thoughts on this Subject, will, I presume, excuse and pardon that Defect ; provided their Expectations be but in some sort answered, by meeting with something *new* and *instructive* : And yet I desire nothing may be embraced for its *Novelty*, except at the same time it be supported by *Reason* as well as *Experience*. So that I humbly hope, if I do venture to go out of the common Road, It will not be interpreted to be any sort of *Heresy* in this Science ; because I now address my self to the politer Part of the Laity, to the Gentlemen of good Sense and Judgment, who are not so apt to *shrink* and be *affrighted* at new Discoveries of undeniable and rational Truths, as some others are, who by their Profession are commonly tied down all their Lives to one particular Set of Thoughts ; whereby their Understandings and Judgments are often cramp'd, and are not suffered to act out of their own narrow Sphere.

If this small Essay for some farther Improvements in the Art of Gardening, happen to fall into the Hands of some such μικρόψυχοι, narrow-souled Persons, I easily guess the Reception it will meet with. But for others, Gentlemen of a liberal Education and general Knowledge, with such I have been so well acquainted, especially since the Publication of my former Treatise, and have received so many singular Favours from many of them unknown before, that as I think my self here obliged to acknowledge their undeserved Civilities, so I must also say, that I fear no Hardships or ill Treatment from that Quarter. I am very easy to think, that this small Essay, humbly submitted to the Judgment of wiser Persons than my self, will not fare the worse for coming from a * Clergyman, who always owns these Things to be the Fruits of his *Diversion*, not of his *Study*; having other Cares of much greater Moment always upon his Hands, and that lie next his Heart, even the difficult Charge of instructing and *leading* many Hundreds of Souls in the Way to Heaven.

Having premised thus much ; before I proceed to give any particular Directions and Rules, I would have it yet observed, that the Design of the following Treatise is to put Gentlemen into a Method of having the *most* and the *best* of all sorts of Fruit, and that in the *easiest*, the *cheapest* and most *expedient* way. Such an Attempt, I presume,

* It may not be amiss to take notice here of the Answer which a profess'd Gardiner gave to a worthy Gentleman, a Friend of mine, who happen'd to ask him how he liked the *Clergyman's Recreation*. *Why alas ! Sir, (says he) the Author is a Parson.*

sume, will not be *unacceptable* ; and those who have vast Gardens, much Walling, and a Multitude of Trees, and at the same time not Fruit sufficient for their Table, will think it very *seasonable* and *necessary*. I suppose I need not make an Apology for this ; there are so many Gentlemen that have a feeling Sense of it. It will therefore be worth while, first to assign the general Reasons and Causes of that Defect, and then we shall be the better able to seek for a Cure and apply a Remedy.

The First General CAUSE of BARRENNESS.

ONE great Cause of the want of Fruit in many Gardens, is, a lying too much open and exposed to the Winds, especially the *West* and *South-West* Winds, which in many Parts of the Year made terrible Havock and Desolation in our Island ; not only by *blasting* the Fruit in the Spring ; but by *chilling* and *starving* the Fruit all the Summer, so as to hinder its coming to any due Maturity. And with respect to Standards and Dwarfs, there is no little danger of the Fruit being torn off before 'tis ripe by the Violence of unguarded Winds. There are commonly many Causes concur to the increasing this great Evil. As for instance ; an open Vale betwixt two Hills at a distance ; a long Canal with tall Trees on each side ; or some Groves of Trees with large Opens or Vists between them. These, with many other accidental Causes of Buildings, &c. do many times occasion such perpetual and violent

lent Currents of Wind, that 'twere a vain Expectation to hope for either *much* or *good* Fruit in a Garden that lies open and exposed to such external Violence. I need not therefore say that the first and earliest Care must be taken to guard against this dangerous Enemy, by planting Lims or Elms in a *Quincunx* order at a convenient distance from the Garden ; but as near to one another as may be, that no time may be lost in procuring the desired Fence and Security.

However I am well aware, that the Situation of a Garden may be such, that this Evil may be in a manner incurable ; and a Gentleman may have the Misfortune to find his Garden upon such a Hill, and so exposed on all sides to the Violence of Winds, that no artificial Shelters *can* secure him. In all such Cases, there is no other Remedy, but to change Place, to look out for a more convenient Situation at some greater distance from the House, where a proper Piece of Ground may be allotted for a Fruit-Garden and nothing else ; whence even Flowers and all unprofitable Weeds should be banish'd. Neither ought this to be look'd upon as a chargeable Scheme, attended with any doubtful View of Success: For I can easily make it appear, that in many other Cases besides this of being without Remedy subject to blasting Winds, it is the surest and most unexceptionable Method, to have a peculiar Piece of Ground allotted by it self, distinct from that which is properly called the Garden of Pleasure ; The Description whereof I shall reserve to its proper Place ; and shall only observe here, with respect to the particular Point I am upon, that there are these following

following Advantages attending the present Scheme. For,

(1.) This will once for all effectually cure the Evil complained of: Inasmuch as it cannot well be imagined that any Gentleman's Seat should be destitute of a small Piece of Ground sufficiently well shelter'd from Winds, either by Trees, or Buildings, or both, if it be chosen discreetly for that Purpose.

(2.) Another Benefit in this Scheme will be; That you will have a Fruit-Garden exactly to your Mind, neither too little nor too big, and exactly right as to its proper Situation and Exposition to the Sun, in all respects answering the Purpose of a profitable Fruit-Garden, to be managed according to Art, with Trees, both Wall and Dwarf, set at their proper distances.

(3.) Here will be an Opportunity given for the building new Walls with *Horizontal Shelters*, which (as I shall shew presently) are attended with incredible Advantages, both for the securing the Fruit in the Blossom from Frosts and Blasts in the Spring, and for accelerating its ripening afterwards.

(*Lastly.*) Another very considerable Advantage still in the Choice of a new Garden, is, that there will be an untry'd Soil to work upon, which will infallibly produce vigorous healthful Trees, if it be rightly managed and chosen, and the Trees themselves afford early. large, and beautiful Fruit, if they be pruned and ordered as they ought. To all which I need not add, that by Means of such a little retired Garden, you will have the Fruits of your Care and Charge secured to you from all Comers and Goers, which in a large and spacious

Garden of Pleasure is found to be a Matter of some Difficulty.

But before I leave this first general Cause of Barrenness in a Fruit-Garden, viz. lying too much exposed, I cannot but here take Occasion to add, by Way of Remedy and Cure; That there is commonly a very great Mistake committed in building Garden Walls too high, even to the Height of 14 and 16 Feet. Which hath these two great Evils attending it, besides the unnecessary Charge of it; it subjects the upper Part of the Trees to the blasting Winds; and it tempts the Gardener to run up the Branches of the Trees direct and perpendicular, in order to cover the Wall as soon as may be. This Method indeed will soon cover the Wall with Wood; but as it is contrary to the Rules of Art, there will soon plainly be discerned a Defect and Want of Blossoms and Fruit in the middle Part of the Tree, which will be more visible in the Pear than in any other Sort of Tree. But this being not the proper Place to rectify this Mistake in Pruning, what I am here to observe and take notice of at present is only this; That nothing but a manifest Want of Room can excuse or justify the building Garden Walls too high, when it is plain there is a certain Charge for a very uncertain and doubtful Profit. I have always thought that 8 or 9 Feet high is sufficient to answer the Purpose of the most vigorous Tree, provided it have but Elbow-room enough; and I suppose too that that Height will be thought a sufficient Guard against

* Foreign

* Foreign Invaders of Property; if at the same time you will but make this general Exception, That nothing is ordinarily strong enough, not even the Grace of God, to stop and conquer the Perverseness of Man's Will and his wicked Inclinations.

* It may not be amiss here to relate, That at my first coming to my Parish, I found some Difficulty to preserve my Fruit from Robbers: Hereupon I resolved upon this Stratagem. I ordered the Smith to make a large Iron Trap with formidable Teeth to close one within another, which was to be called a *Man-Trap*. This was hung up several Weeks at the Smith's Shop *in terrorem*, giving it out, that now there would be great Danger, if any one should attempt to rob my Garden. This, without setting the Trap, succeeded according to my Wish, and I have not been since robb'd these 12 Years. *Note, Restrain'd*, I hope too, not altogether by Terror, but from better Principles.

The Second General CAUSE of BARREN- NESS.

HAVING under the foregoing Head pointed out one great and manifest Cause of Unfruitfulness in many Gardens, and directed, as I hope, a sufficient and proper Remedy, I shall now assign a second general Reason for the same Defect, and I hope also I shall be able to apply an easy and effectual Cure. The Reason that I would here assign for Barrenness, is, the having too much Walling and too many Trees. This may look at first Sight like a strange Paradox; That because a Gentleman has great Variety of Walling and Abundance

bundance of good Trees, that *therefore* he should have but little Fruit. But as strange as this may seem, Experience will justify the Truth of it, and I doubt not at all but to make it appear, there are good Reasons to be assigned, why it must, generally speaking, have that Effect.

For let it but be well considered what little Care is taken in a very large Garden, that every Tree have its due and proper Pruning, and we shall not wonder if they do not bear their proper Quantity of Fruit; nay, frequently that they bear little else but Leaves. The Grass and Gravel Walks shall not want their seasonable Mowing and Rolling: The several Sorts of Ever-Greens shall not want their due Clippings to preserve their Beauty and Figure. The several Sorts of Flowers are planted in their proper Earths, and removed at their proper Seasons, to give them all the Variety of Colours to please the Eye; All these Parts of a Garden are respected with, as it were, a religious Care, and complemented with their timely Dressings and Culture, to give only an entertaining Prospect and pleasant View. And excepting the Case of some sweet-scented Flowers and Shrubs, there is but one Sense gratified with the Expence of Nine Parts in Ten of a fine Garden. For alas, after the Attendance that is given these Things I have been speaking of, what a little Portion of Time and Labour will be afforded the Fruit-Trees against the Wall, or the Dwarfs wherever they are? If the Wall-Trees can but be perswaded to be brought within the Compass of a *Semicircle*, and the Dwarfs made a little *Concave*, all is generally thought to be well enough, without any great Regard had to what is proper to be chosen, and

and what to be refused ; much more, without any Care to put the Tree into a bearing State for another Year. Nay it is but too commonly seen, that even the best Sorts of *French* Pears against the best Walls in some Gardens, shall have no other sort of pruning, than what a good Pair of *Sheers* affords them ; whilst it may be the Gardener would blush to have a *Weed* found in his Borders. I confess this sort of unequal Management sometimes raises Indignation in me, and I cannot here forbear to expostulate the Case a little with such who are nicely careful to maintain Beauty and Regularity in all other Parts of the Garden, wherein they are to be commended ; but will not be persuaded to allot a due Proportion of Care and Labour to the noblest and most profitable Part.

For let us here but reflect a little, and resolve (as we ought) to proportion our Value and Esteem to the intrinsic Worth of Things, as they more or less serve to entertain the Senses, and answer the innocent Appetites of human Nature. Do the several Colours in Flowers serve to strike the Eye with their Variety and Beauty, and thereby form pleasant Ideas in the Imagination and Fancy ? What less than all this can we think the several Fruit-Trees, cloathed with their different colour'd Blossoms, will do ? If they be managed with Art, what a pleasing Entertainment is it to the Eye, to behold the Apricot in it's full Blossom, white as Snow, and at the same time the Peach with its crimson-colour'd Blooms, *both* beginning to be interspersed with green Leaves ? These are succeeded by the Pear the Cherry and the Plum, whose Blossoms and Leaves make a very beautiful Mixture in the Spring ; and it cannot be a less pleasant

pleasant Sight to see Clusters of swelling Fruit all the Summer, as the Earnest of the full Gratification of another Sense in Autumn. And now we are come hither, what Painter can draw a Landskip more charming and beautiful to the Eye than an old *Newington* Peach-Tree laden with Fruit in *August*, when the Sun has first begun to paint one side of the Fruit with such soft and tempting Colours? The Apricot, the Pear, the Cherry and Plum, when they appear in Plenty as they ought, present themselves to the Eye at the Time of ripening in very inviting Blushes. In short, all the several Sorts of Fruit-Trees have such pleasing Varieties, that were there no other Sense to be gratified but the *Sight*, they may vie with a Parterre even of the finest Flowers. But then when we come to consider, that all this Beauty rewards the careful Pruner with Plenty also of the most delicious *Fruit* to gratify the *Taste*, there can be no Comparison admitted, and no Excuse can be made for the least Want of Care, to assist Nature in her kind and generous Inclinations.

However it is the Observation of this *Want* of Care, and the manifest *Neglect* of the best and most profitable Part of a Garden, which has made me thus expostulate the Cause, and with what View I have done it, may easily be perceived. For if, where there is much Walling, and Fruit-Trees abound in great Plenty, there is yet so unequal a Portion of Time and Art allotted for their Management, a necessary Consequence of that must be *Barrenness*, which is the Disease I am inquiring into. Having therefore here in some Measure discovered the Cause of it, we are now to seek out for a proper Remedy and Cure.

Now

Now there are but two Ways of curing this Evil of Barrenness, proceeding from a too great Abundance of Trees: Either first to allow a proportionable Help and Assistance, for the due and careful Management of so many Trees; or else secondly to *reduce* the Fruit-Garden, and bring it into a much less Compass, that every Tree may be sure to have its proper and seasonable pruning and nailing. But why I prefer this latter Method, much rather than the former, I shall give these following Reasons.

(1.) There is more Care and Attendance required for the due Management of a single Fruit-Tree, than is commonly thought on or expected. The Pear and the Vine especially, which require the best Walls, will not be put off with any *superficial* Pruning. The former must be frequently check'd, and even *maimed* in it's most vigorous Parts, to hinder its luxuriant Growth; and the great Wood, especially in the middle, must be ever carefully rejected: And as for the Vine, *that* will not be satisfied with less than four several Prunings and Nailings within the Year. And I shall need to tell the vigilant Gardener, how much Business it is, to dispose according to Art the several tender Branches of a Peach or an Apricot? Now where there are great Numbers of such Trees in a Garden, as far as my Observation has gone, they are generally neglected, and put off with much less Care and Attendance than they require; the necessary Consequence whereof is *Barrenness*. To Cure which therefore, I should think it a much better Way to lessen the Number of such Trees, to confine the best Fruit-Garden to a narrower Compass, than to allow a proportionable Help,
and

and what will be thought an extravagant Charge, for the proper Government of so many Trees; especially if,

(2.) It be considered, that *that* may easily be shewn to be an *unnecessary* Charge and Trouble: Because, as will appear presently, the End and Purpose of having a sufficient Quantity of Fruit may be obtained in a *less* rather than in a *large* Garden; and consequently at a much easier and cheaper Rate. I always take it for granted, that every one covets to have as much Fruit as he wants, with as little Charge, and in as small a Compass of Ground as may be; that is to say, in short, to have a great deal of good Fruit in a little room. If there are some who will not grant me this, I desire that what follows on this Head may go for nothing; but where it will be granted. I hope the following Reasons, Arguments and Calculations will be particularly considered, and I doubt not at all, but it will plainly appear, that many Gentlemen have hitherto been under great Mistakes, when they have enlarged their Gardens with that particular View and Expectation of having *more* Fruit.

To make this matter then as clear and intelligible as I can, I have here annex'd two distinct Schemes or Plots, both furnish'd in such Order and with such Fruit Trees, as are proper to their different Situations and Aspects to the Sun; whereby it will appear what Variety and what Quantity of good Fruit, may with Reason and great Probability be expected from a little Spot of Ground, allotted solely and particularly for the Purpose of a Fruit-Garden. If it be here objected and wonder'd at, as I expect it will, that I should allot so little walling,

walling, and so small a Space of Ground, as only 40 Yards square to serve a plentiful Table with Variety of the best Fruit, I desire it may be particularly considered and examined, what probable Quantity of Fruit a Tree pruned and managed according to Art, may reasonably be supposed to bear, and then I am persuaded the Objection and Wonder will very much cease, if not wholly vanish.

Let us then begin with the Peach, which in a bearing Year, and when the Tree hath well-nigh covered the Wall, will ordinarily bear a hundred or more of large fair Fruit; and if the Tree be in a prosperous State kept free from great Wood in the Middle, and hath the Advantage of Horizontal Shelters (of which more presently) you need hardly ever fear having such a Quantity from every single Tree. But because that Number may be thought too great to be depended upon, let us take only half, and suppose every Peach-Tree to bear fifty fine large Peaches. An ample annual Reward for Care and Diligence! Now in both Schemes I have allotted Seven Peaches on the best Walls, the Product whereof at a moderate Computation, will be 350 of the best and largest Fruit, which ordinarily succeeding one another in their ripening, even on the same Tree, will afford a regular and daily Gratification to the Taste in this one Article of the Fruit-Garden: But lest even this Abundance should not be thought sufficient, more Peach-Trees may be set in the Room of the two Vines in the one Plot, and the Winter Bon Crétien and the La Châssière in the other; because there are other Places may be found for *them*, as I shall observe presently. And indeed I placed *them* there,

there, rather with a View of their being removed, as Occasion might require, or as Sicknefs and Mortality in other Parts may make neceſſary for a preſent Supply of more Peaches.

Let us next conſider the Apricot; which, whatever Monsieur *Quinteny* is pleaſed to ſay of it, as if 'twas fit only for Compotes, is really a good and much valued Fruit in *England*. I mean not the early Maſculine Apricot, which is indeed worth nothing; but the large Turkey Apricot, which hath a noble Flavour, and is a conſtant Bearer. If therefore in the one Plot I have allowed only *three*, becauſe a *South-weſt* Wall is rather too good, and in the other *five*, as a ſufficient Supply, it is not becauſe I deſpiſe it, but becauſe I know *five* ſuch Trees will ordinarily bear an incredible Quantity of Fruit, if they be managed as they ought. I have now two Apricot Trees, that have been ſeveral Years in their Proſperity and at full Growth, and I cannot ſay that in all that Time I can remember a Year, when they afforded me leſs than a Buſhel of Fruit. And alas! my Soil and Situation will not give me leave to boaſt of any Security from Blaſts, Canker, &c.

It will not ſure be thought too great a Complement, that I allow Room on the beſt Walls for four or five of the beſt *French* Pears, which are ſo little inferior to any of the Stone Fruit, and yet come to their Maturity when the other are gone, which is no inconfiderable Recommendation. And on the other ſide, it ought not to be wondered at by thoſe that admire them, that I allow ſo few; becauſe with good Management each Pear-Tree will ordinarily bear no leſs than half a Buſhel, as I have had long Experience; indeed not ſeldom as much more. However there is ſo ample a
Proviſion

Provision made of excellent Sorts among the Dwarfs, that there can never be found any Deficiency of good Pears in this Plan.

I have allowed Room for some of the best Plums on the *East, West, and South-West* Walls; because I think they very much deserve it, especially the two Perdrigans and the Roch-Corbon. They will by no means do well *without* a pretty good Wall; but *with* that Assistance they are incomparable Fruits, and have a noble vinous Flavour, such-as must be agreeable to every one that has not an Aversion to a Plum, or will not always think it a *peasant* Fruit.

Upon the whole, here is a square Plat of Ground set out and walled round, supposed to be only 40 Yards square, which at 4 Yards distance for every Tree, will afford 40 Trees, every several sort suitable to its several Aspect to the Sun; which, with good and skilful Management, may reasonably be supposed to afford every Year a sufficient Variety, as well as Quantity of the best Fruits; If we take in what I am going next to speak to, *viz* that great additional Help of the Dwarfs in the middle.

Which Dwarfs I make to consist only of Three sorts of Fruit, as most proper for our present Scheme, *viz*, Pears, Plums and Cherries, leaving even the best Apples to their more proper Place in the Orchard: Except the Eight Non-Pareilles on Paradise Stocks, which may be observed to be set in the intermediate Spaces on the Four sides, where, never growing above a Foot high, they will have room enough.

Now one side of the Square may be observed to contain no less than 28 Dwarf Pears: allowing
every

every Tree four Yards square for its horizontal Branches to spread in, which is very sufficient, supposing the Place not to be crouded with any thing else ; no not with Flowers or Legumes, which is what I always take for granted. If then every single Tree doth but in any sort answer the Proportion of Fruit, which my own Experience hath furnished me withal, here will be greater Plenty and Abundance than can well be disposed of. I have only one Dwarf of the Swan's Egg Pear, which is indeed (as I have termed it) a *Nulli secundum*, and if my Memory fail not, hath for these last five or six Years afforded me no less than two Bushels ; Nay, this last Year I had betwixt three and four Bushels from it, most of them excellently good. However, because this may seem something extravagant, and more than can ordinarily be expected, let us suppose every Dwarf-Pear to afford only half a Bushel a-piece, one with another, the Product of Twenty eight Trees, on one side of the Square only, will be Fourteen Bushels of the best Summer and Autumn Pears of five or six Sorts.

The other Side of the Square is filled with the best Plums and Cherries, at least the best of those Sorts, that will do without the Help of a Wall, 28 also in Number ; which, with tolerable Management, and a reasonable Allowance for Quantity, will make an abundant Provision for the Table, through the whole Season of Cherries and Plums. Only it may not be amiss here to observe, that it will be very proper to suffer the one half of the Dwarf-Trees to grow higher than ordinary : That is to say, all these several Trees in both Squares, that are planted nearest to the *North, North-East, and North*

North-West Walls, may be suffered to be what we call *Half Dwarfs*, where their taller Heads will not do any Harm by overshadowing any of the best Walls, And indeed the *Half Dwarfs*, where they can be suffered, are the most constant Bearers with the least Trouble and greatest Plenty; the other requiring a very vigilant Eye to correct Luxuriancy, and seasonably to remove all perpendicular and useless Branches. This indeed must be done in the *Half Dwarfs*, as well as the other; but the Confusion that a vigorous Tree makes is much greater in the low *Dwarfs*, and so the proper Remedies must be oftener apply'd. Besides, I have observed, that none of the Sorts of Plums and Cherries especially, will well endure *violent Corrections*: *Unmerciful* Loppings is a Sort of *Pesecution* to them, and they answer the End of their Nature much better under a *moderate* and *gentle* Government.

By this Time I suppose it will be thought by many, that I have forgot Two or Three considerable Articles in a Fruit-Garden, and have made no Provisions for them in the present Scheme, *viz.* Vines, French Winter-Pears, and Figs: But indeed *these* I have with Design left out of the Plan, and reserved them for more proper and convenient Places. All the Southern Aspects of the Dwelling-House, Stables, and other Out-Houses, which every Gentleman's Seat is plentifully furnished with will do singularly well for these. For all the several Sorts of *Bon Crêtiens*, the Summer, Autumn and Winter, &c. require more than ordinary Height and Room to spread in; and here they may be allowed *Elbow-room* and *Height* enough to answer the End of bearing *much* Fruit; tho' if

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the Soil be any thing inclinable to too much wet or a cold Clay, it must not be expected to be good Fruit: And therefore in such Cases, it is advisable, rather to be contented with such as will do well enough; as the Winter-Thorne, Amadot, Virgulee, (or La Chassere, which are excellent in their Kind. However, I ought to lay here that if the Soil be warm and suitable to the several Bon Crètiens; yet they produce much better and larger Fruit on a Quience than on a Free Stock; which perhaps is peculiar to this Sort of Pear; tho' it must not be expected such Trees should be very long lived.

The several Sorts of Grapes are also reserved and allotted for the Southern Aspects of Buildings near the House, where they may have Room to spread themselves, and will soon cover such Walls with Plenty of Fruit. Not that the Vine doth really need (as is commonly thought) any such great Height to make it produce Fruit; but that it will *sooner* and *better* cover such *tall* Walls as are a natural Security of the Fruit against ordinary Endeavours to taste it.

As for Figs in the last Place, which I have reserved for Walls that lie open to Comers and Goers, they will do singularly well there. For tho' both the blue and the white Sort are the richest and noblest Fruit a Garden affords, yet it seldom strikes the Fancy or suits the Palate of the meaner Sort; insomuch that there is little Danger of being deprived of this Delicacy by any rapacious Hand. And indeed it is for this Reason also, that I advise the planting the best of Winter-Pears in such exposed Places; because whilst they are growing on the Tree, they are in no great Danger of being tasted a second Time. Thus

Thus I conceive we have effectually found what we were in Quest of, *Multum in Parvo*; which I always suppose to be a very acceptable Thing; to such wise Men especially, as have learn'd the *divine Art* of dedicating the Overplus of their Time and Estate to God.

What some modern Authors mean by putting Gentlemen upon Grand Designs, and vilifying all others as *crimping, diminutive, and wretched Performances*, I could never understand. I believe it will be found that nothing hath more tended to the Ruin of brave Estates, than these *prolated Gardens*, as they call them, and a fond Affectation of imitating a vain People in what they call *La Grand Manier*: Our English Gentlemen have always been famous for more substantial Realities, without separating the *Jucundum* from the *Utile*; and can relish a profitable Design, tho' it doth not resemble *Ingen-tia Rura*. If Gardens are only to be valued for their largeness, there will be no End of multiplying the Number of Acres, till Gentlemen have got to the End of their Estates: So that I cannot but think, there must be great Defect in the Contrivance, if a very beautiful and magnificent Garden of Pleasure and Profit too, be not formed out of a very few Acres. I am pleased however to think *Horace's* Wish agrees so well with my present Scheme,

Hoc erat in Votis; Modus agri non ita magnus.

Hortus ubi, ———

and that I have reduced the Fruit-Garden to less than half an Acre, sufficient to furnish any Gentleman's Table with all the Variety of good Fruits in their several Seasons. This ought to be the more

acceptable, in that it is proposed as a Remedy to cure Barrenness proceeding from too great a Compass of Ground and too many Trees; which, as far as my Observation has gone, do generally serve to enhance the Charge and lessen the Profit. For what an entertaining and comfortable Visit may we suppose a Gentleman every Day to make to this little Garden; where he will find himself encompassed and surrounded with Plenty, and may behold a charming Variety of what is most pleasing to the Eye and Taste, at once the Reward of his Care and Diligence, and the Fruit even of his Recreation.

I suppose I need not add any Thing farther on this Head, the Two different Plans I have hereto annex'd, the one exactly according to, the other crossing the Quarters, will make every Thing easy and plain *. And the Moral of the whole I should think is not less plain. For if our innocent *Recreations* are thus surprizingly rewarded with Pleasure and Profit, how can an ingenuous Mind forbear thankfully to adore the God of Nature for temporal Blessings, and more chearfully to expect a greater Reward in the next World for such *Virtues*, as lay a Foundation for it in this?

* *Fig. 1. Fig. 2.*

3 Morella cherries
 2 Myrtle Plums
 two White Bonlmyng
 Pound Pears Damascene 2 black P Worcester

Rat Bon magnu Roch Conbon Quen Moller Ruydel Cuyse Medam Burree 2 Apricot's
 A full East Wall 32 Yards long

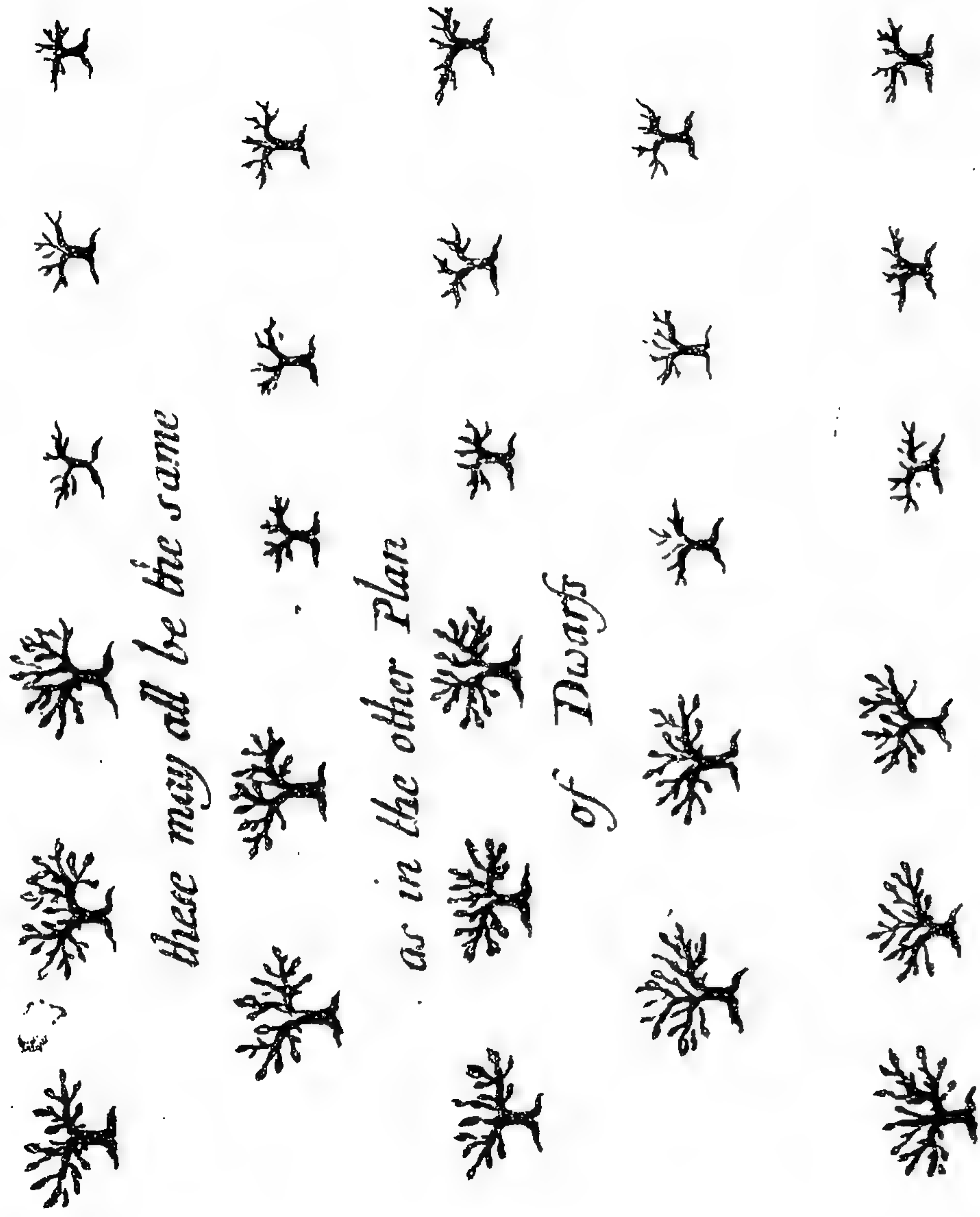
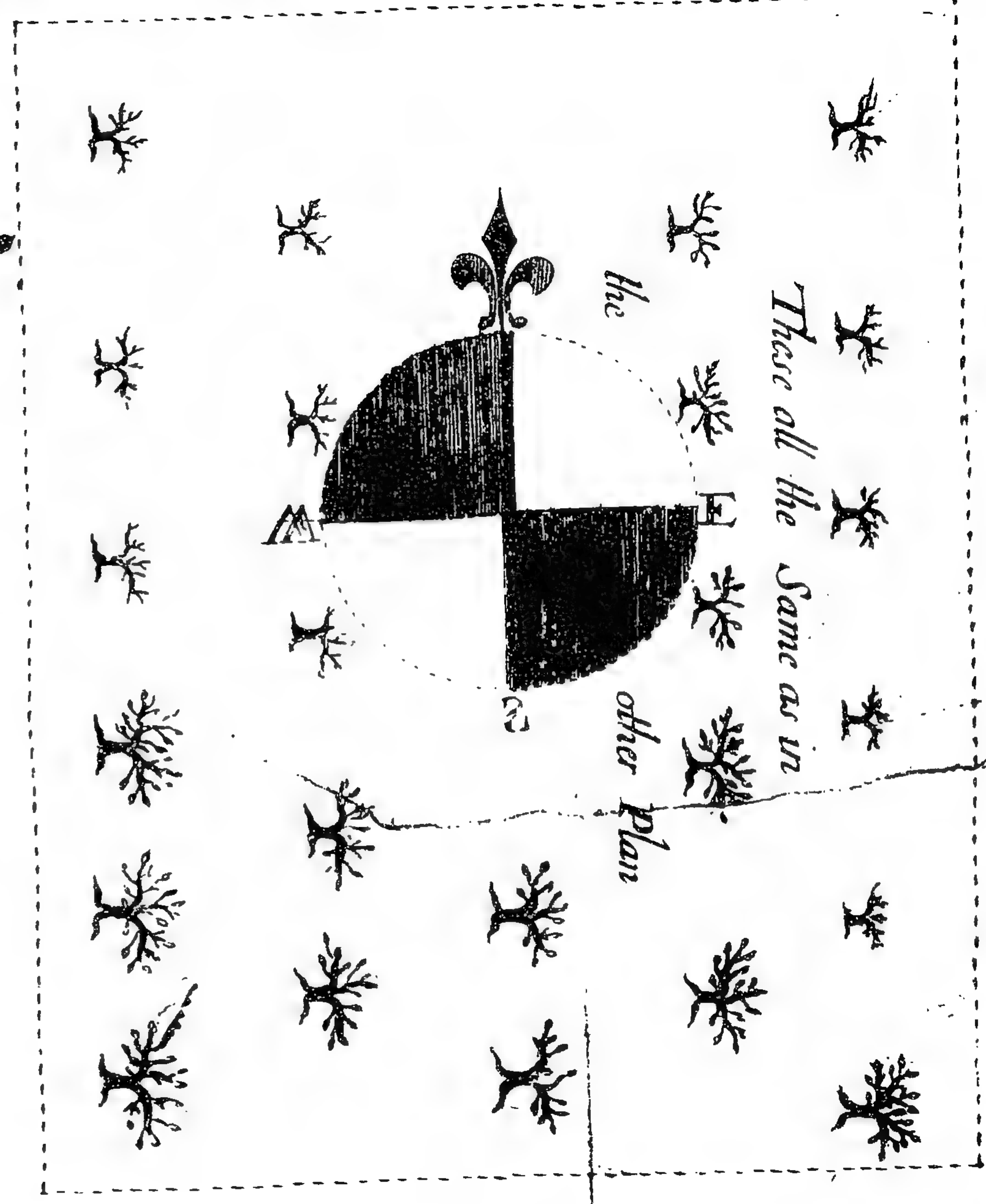


Fig 1.

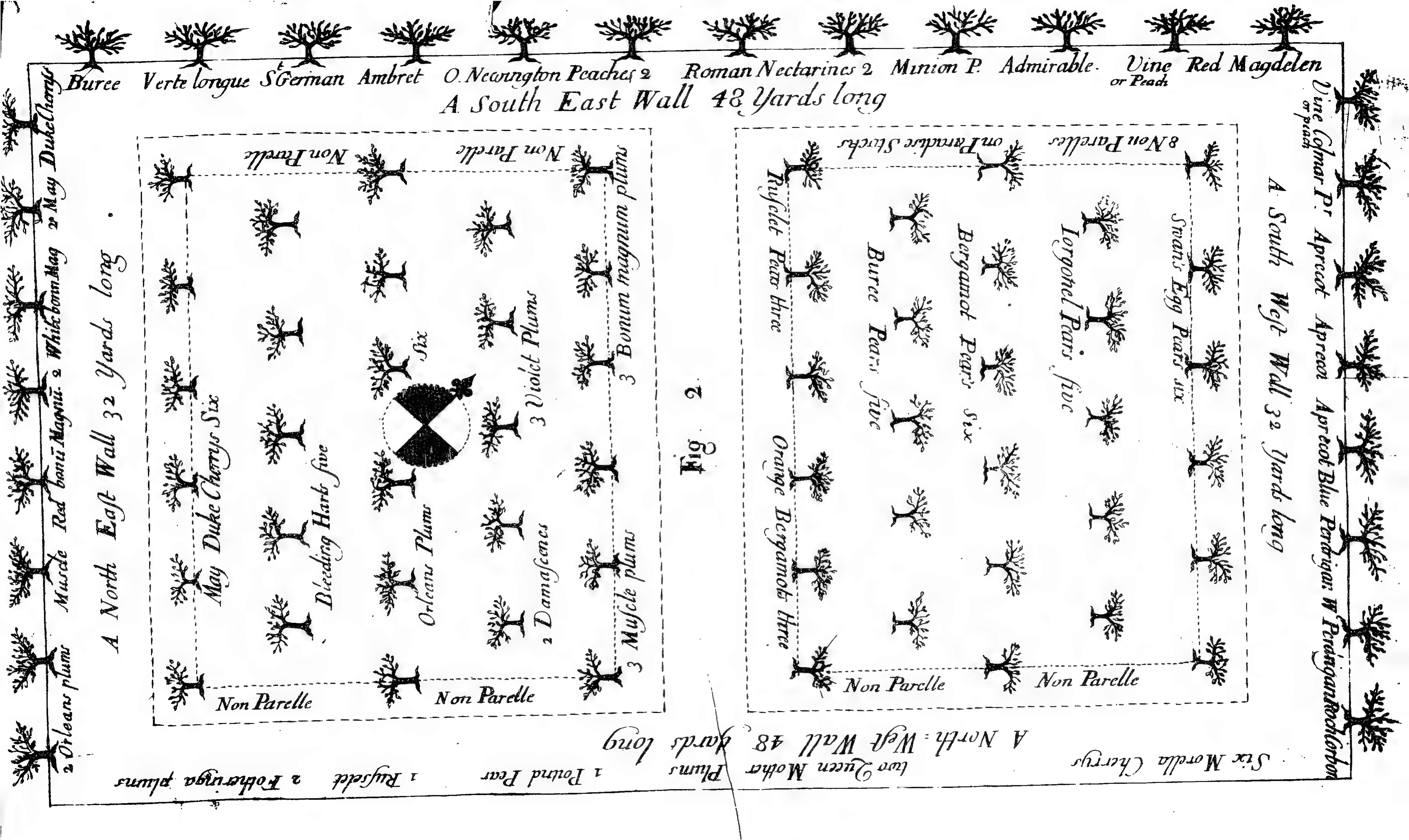


A full West Wall 32 Yards long

Colmar Wint B. Crétien Burree La Chasere Old Newingt. Admirable W. Magdalen Nivet Chevercuse Royall Peach R Nectarin Duke Orange
 A Direct South Wall 48 Yards long

3 Orange Apricot Blue Perdigon W. Perdigon Dunderdier Rotheringa Myrtle





A Third General CAUSE of BARRENNESS.

IS an unskilful Ordering and bad Management of Fruit-Trees, both in their *Planting* and *Pruning*. The Case is much the same here in the *vegetable* as it is in the *moral* World, Every one knows how fatally Youth is commonly enslaved to bad Courses, for want of setting out right at first, and being well instructed and seasoned with virtuous Principles. Corrupt Nature will soon overbear the *weak* and *tender* Dispositions to Goodness in Youth, without an early Care and wise Government: By the Help whereof head-strong Passions are subdued, and all the wild Sallies of a vicious Inclination are kept within due Bounds? And so by the Blessing of God, the Man thereby becomes fruitful in good Works, and useful in his Generation.

So also here in the *vegetable* World; it is of great Consequence to the Goodness and Prosperity of a Fruit-Tree, that it be rightly managed and kept in due Order from the Beginning; that the extravagant Growth of Nature, and its Tendency to Wood and *fruitless* Branches, may be kept under and subdu'd in time, before it become too head-strong and ungovernable: by which means the *weak* and *tender* Shoots will begin more and more to discover themselves, as the joyful Appearances of Fruit and Plenty. An Error and Mistake in the Beginning proves often fatal, and is not so easily rectified afterward, without great and too dangerous Violences. But let us examine this Matter a little more

more particularly, that we may the better know how to apply the proper Remedy.

As one Cause of Barrenness, I have here taken Notice of a common Defect in the Management of Fruit-Trees; both in *planting* and *pruning* them. To speak a little methodically,

First, A wrong Method of *planting* is a very untoward Beginning, and proves oftentimes of very ill Consequence, with respect to future Hopes of any great Plenty. And yet there are these Three several Ways of *planting* too often practised, which seem to me to be contrary to the Rules of Art, as well as Nature; *viz.* Planting Trees too deep; too near one another; and against a wrong Exposition.

(1.) There is no one Mistake in the Art of Gardening, that I have observed to be more general and common than this, of planting Fruit-Trees too deep in the Ground; and yet nothing is more fatal to them, especially in some Grounds too much subject to Moisture in the Winter, and nothing tends more to keep Trees in a sickly, unthriving Condition, and consequently from bearing either *much* or *good* Fruit. Indeed where the Soil is naturally exceeding dry, and lies on a Declivity that will quickly carry off the Winter-Wets, the Fault may be less dangerous: But except there be a sufficient Depth of natural good Earth above the Rock or Gravel, the Evil complained of will there quickly discover itself, after Four or Five Years, when the Roots of the Trees will be starved by a hungry Gravel, Sand, Chalk, or Rock, or whatsoever the Bottom be, that lies too near the Surface. On all Accounts therefore it is much the better and safer way to plant *high*; provided
Care

Care be but taken the first and second Year, to keep the Roots tolerably cool and moist; for which I have already given Directions in my former Treatise *. To which and what I have there said about Planting, I shall only add here on this Head: That because I am well assured, nothing is more fatal to Fruit-Trees, the tenderer Sort especially, than planting them too deep, and thereby subjecting their Roots to too much Wet in the Winter; (for Summer-Wets never hurt them) I cannot but advise to let the Top Surface of the Borders under the Walls be at least Seven or Eight Inches above the common Level; setting that Part of the Tree, where it begins to root and divide its spurs, exactly even with the upper Surface of the Border. Only still it must be observed (as I have elsewhere directed †) that there must be added another Semicircle of good Earth or rich Sand of about Three or Four Inches deep round the Tree, paved with small Pebbles, to keep it cool and moist for the Two first Years. If this Method is carefully put in Practice, there will be no need of mending the Borders above One Foot deep; no matter how wide, to encourage the Roots to spread horizontally. I cannot but here repeat, and earnestly recommend the making use of the best *untry'd Earth* that can be got, for filling up the Trenches, both for Wall-Trees and Dwarfs; having had long Experience that no Sort of Composition made with Cost and Art, can exceed the Riches of this Earth, or will make
more

* *Pag. 14, Edit. 1.*

† *Pag. 15. former Treatise.*

more vigorous, healthful and lasting Trees *.
But,

(2.) There is another common Mistake committed in planting, which is attended with very unhappy Consequences, and that is planting the Trees too near one another ; the Mischief whereof is very manifest these two ways : First, after 5 or 6 Years, they begin to crowd and shoulder one another, and for want of Room the Gardener is tempted to run the Branches perpendicularly, which is the high Road to Ruin ; at least it is the way to increate the Wood, and lessen the Quantity of Fruit ; for the bottom and middle Part of the Tree will quickly be found to be altogether barren ; and in the Peach and Appricot the Evil will be absolutely irrecoverable ; *they* not putting out young Shoots, when the great Wood is cut out, by Reason of the Thickness of their Bark. Whereas when Trees are kept thin of Wood in the Middle, and have Room to spread their horizontal Branches, every Part of a Tree may with Care be kept in a bearing State. But besides, there is another Mischief attends this Mistake of planting too near ; which is, that the Roots of the Trees will quickly meet, and so rob one another of the proper Nourishment they should receive, and when once the Borders begin to be worn out, and lose their Richness and Fertility, *that* is never to be recovered but by taking away the Tree, putting in new Earth, and planting another. Whereas when Trees are planted at their due Distance, their Roots do still receive new Succour and fresh Nourishment, as they advance, and as the Head of the
Tree

* See more of this Pag. 5. Part 1.

Tree increaseth to require it ; whereby an agreeable Health and Vigour is retain'd along Time, even for 20 or 30 Years. Now, though Pears may ordinarily require something more, especially if they be upon free Stocks ; yet I have assigned only Four Yards, as a mean Distance proper only for Fruit-Trees, either for the Wall or Dwarfs. *More* Room would generally leave too great Vacancies in the Wall, and *less* would subject the Trees to the Evil here complained of. In my former * *Treatise* I have indeed recommended the planting tall Trees in the intermediate Spaces : But this I suppose to be done with great Discretion, chiefly betwixt Pears whose Strength and Vigour are not so easily impaired ; or if they are placed between other Trees, they are supposed to stand only 2 or 3 Years at most, and then to be removed into the Orchard for Standards.

For the very same Reason that I disallow of Trees standing too near together, that the Riches of the Borders be not wore out, I also by no means approve of a bad Practice in some Gardens, of letting Rosemary, Lavender, Stock-Gilliflowers and Iris's, &c. grow on the Borders, where the choicest Fruit-Trees are, which yet in a little Time will not fail to impoverish the Ground, and give the Trees, if they be young, occasion to *complain* by making only weak and languishing Shoots, But then again,

Lastly, There is yet another great Mistake, that I find very frequently committed in the planting a Fruit-Garden ; and that is, putting Trees on a wrong Exposition, which must be owing to Ignorance

rance, either of the Nature and Quality of the Tree, or of the true Disposition of the Ground and its exact bearing to the Sun. The Ignorance of either one or t'other, or both, must needs be of bad Consequence, and prove a great Disappointment to the Planter; who it may be for want of being rightly informed, has put a Vine, an Apricot, or a Peach on a *North-East* or a *North-West* Wall, and it may be has been so unfortunate, as to put a mealy Summer Pear, or an indifferent Plum against a *South-East* or a *South-West* Wall. This is no airy Supposition; for I have very often my self found it so, and complained of it with some Uneasiness. It is a very common Practice with some to thrust many of the best Sorts of French Pears, the Buree, the Verte-longue, the Virgulee into any Corner of a *North-East* or *North-West* Wall; or if the Wall faces any Point of the *South*, it shall be shaded by some neighbouring Wall or Building for 3 or 4 Hours; insomuch that if the Trees do bear any Fruit, it will prove small, wat'ry and insipid; the general Consequence of which is, that the Sort of Fruit shall be exclaimed against and condemned, without having had proper Justice done to it.

Indeed it is not seldom that Apricots and Peaches and Vines are *supposed* to be set against *East* and *West* Walls; when upon Examination the Exposition is found to bear several Degrees towards the *North*: In which Case the Disappointment must be very great, when after several Years waiting, the Trees are found to bear little else but Leaves, or small insipid Fruit? For indeed no other can well be expected from such an Exposition, as declines any Thing to the *North*; except in a more than ordinary hot Summer and Soil, or with the Help and Advantage of

of some artificial Heat, as the Back of a Kitchen Chimney, or the like.

To prevent therefore the Inconvenience of this Mistake, it is very adviseable when a Fruit-Garden is once pitch'd upon, and the Walls built, to know by an exact Meridian Line, the proper Bearings of each Wall, before they are planted; and their true Declinations. Now tho' there are several easy ways of doing this, yet because every Gentleman may not happen to be acquainted with them, and to make this Treatise as useful to the Publick as I can, I have inserted the following short and easy Method of finding an exact Meridian Line.

Take a Stone of about 18 or 20 Inches square made exactly plain and smooth. Bore a Hole near one of the Corners, wherein fix an Iron Pin about 14 Inches long *clear*, drawn to a Point on the Top; No Matter whether it be exactly perpendicular. Place this Stone in some open Part of the Garden exactly horizontal by a Level, that Corner where the Pin stands and its Opposite bearing as near as you can guess, *North* and *South*, the Pin on the *South*. This done, about 9 a Clock in a clear Day, draw a Semicircle from the extreme Point of the Shadow of the Pin, which may be done with a steady Hand by the Help of a narrow thin Piece of Fir, made sharp at one End with the Point of a Nail, fixing the flat Side on the Top of the Pin; so that the Point of the Nail may just reach the extreme Part of the Shadow, where you are to make a Point or Mark. Then at about 3 a Clock the same Day, observe exactly when the Shadow of the Pin comes again to the Semicircle; from which Moment allow one Minute for the Sun's annual Motion, and then make a Mark exactly at the Extremity of the Shadow

Shadow, which will be something beyond the Semicircle. Draw a Line strait from one Point to the other, and then *half* it exactly; and from this middle Point raise a Perpendicular which will be the exact Meridian Line.

N. B. It is convenient to make 3 or 4 of these Semicircles both before and after 9 a Clock, for fear the Sun prove in a Cloud, when the Observation is to be made in the Afternoon; and then if one miss, the other may hit. Only great Care must be taken that the corresponding Points in the *same* Circle be made use of, that there be no Mistake. It is also proper to do this in the Summer Quarter, when the Pen-Umbra of the Shadow's Point is least, and the exact Point may be best taken and more nicely observed.

N. B. This exact Meridian may with ease be transferred to any other more convenient Place about the House; as the upright Stanchel of a Window or any perpendicular Transome or Jaume, shadowing on the Floor or Window Board; this Meridian being of singular Use throughout the whole Year for regulating Clocks and Dials, and taking Declinations. Which last Operation being to our present Purpose, may be very readily performed, by only applying the Side of the Quadrant to the Wall, and then holding up a Plum-Line exactly at 12; whole Shadow may pass thro' the Centre, and will at the same Time give the Degrees of Declination on the Rim of the Quadrant; only a Western Declination must be counted *forwards* from Left-Hand to Right, and an Eastern *backwards* from Right-Hand to Left, on the Edge of the Quadrant, as the ingenious Inquirer will soon observe.

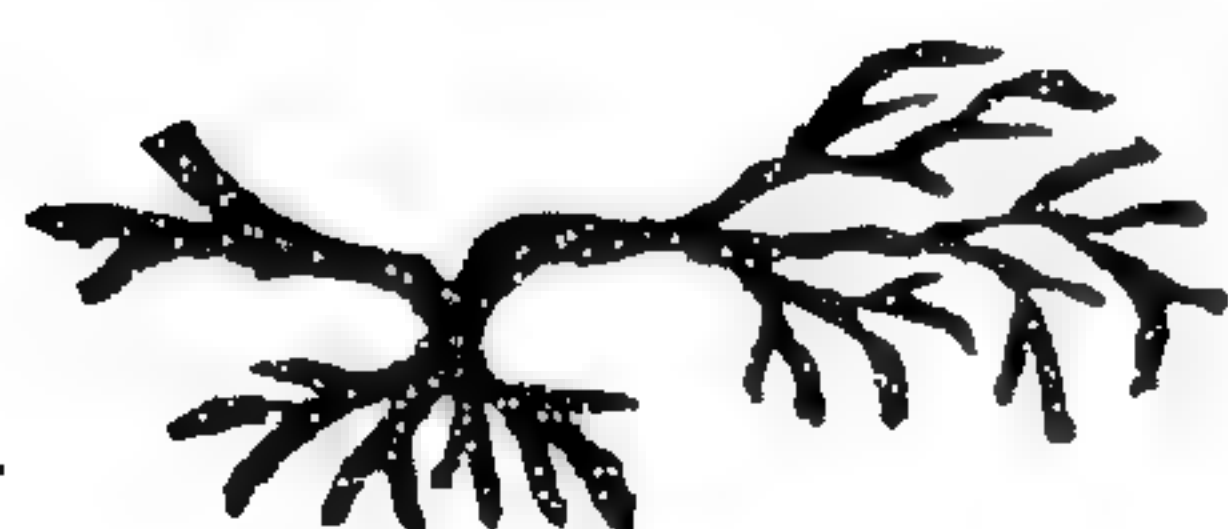
As to the Mistake of planting Trees on a wrong Exposition for want of knowing the proper Aspect every Tree requires; to remedy this I was once thinking to insert a Catalogue of all the most known Fruits. with their suitable Aspects over against them, as also which are properest for Walls, and which for Dwarfs; but that I consider'd I have already effectually done this in the very Plan I have given above *; where at one View may be seen what I have judg'd proper for that very Purpose with Respect to all the best and most approv'd Sorts of Fruit; and the kind Reader will, I know, excuse me from all needless Repetitions.

Secondly, I come now according to my Method, to take Notice of some common Mistakes in the *pruning* of Fruit-Trees, which I suppose to be a great Cause of their Barrenness. But before I enter upon this difficult Point, I must be forced to say something to rectify a common Mistake, even in one of the first Things a Gardener takes in Hand, and that is his *Pruning Knife*; the true Make and Shape whereof I venture to affirm, with due Respect to the Judgment of preceeding Ages, hath hitherto been quite mistaken. For the Blade of a common Pruning Knife is known to be shaped and fashioned like a Hawk's Bill; and yet according to the Observations I have made of the real Use of a Pruning Knife, this is quite wrong and unnatural. If indeed the Branches of a Fruit-Tree against a Wall grew generally *downwards*, this Kind of Shape might be of some Use for the cutting off some of the stronger Branches; but as they generally grow *upwards* and
side-

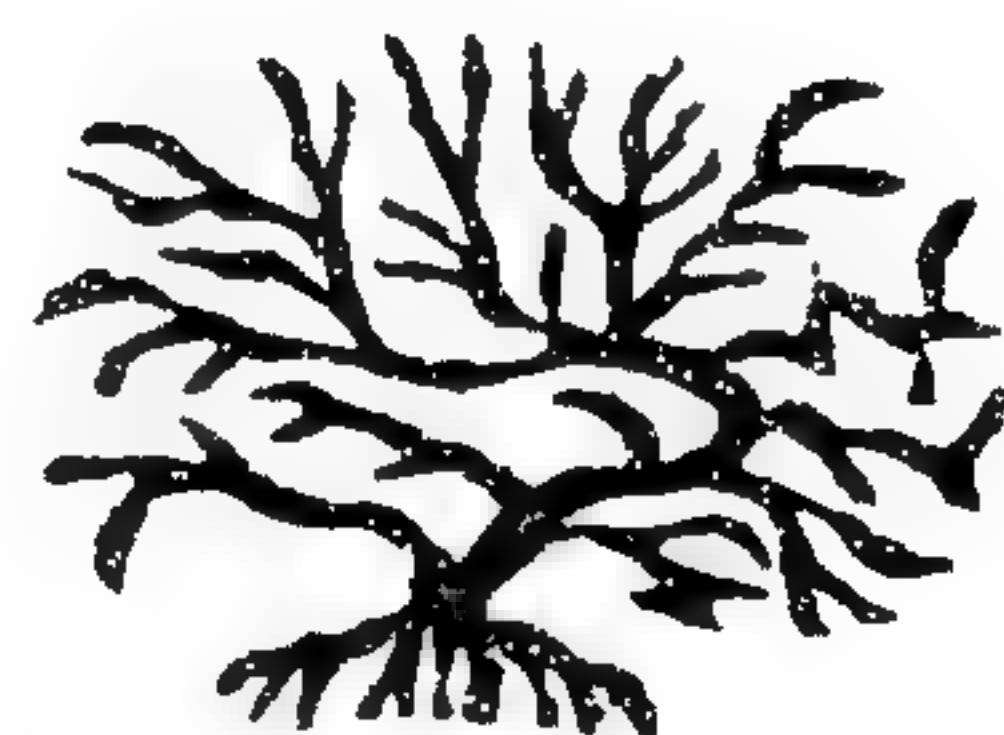
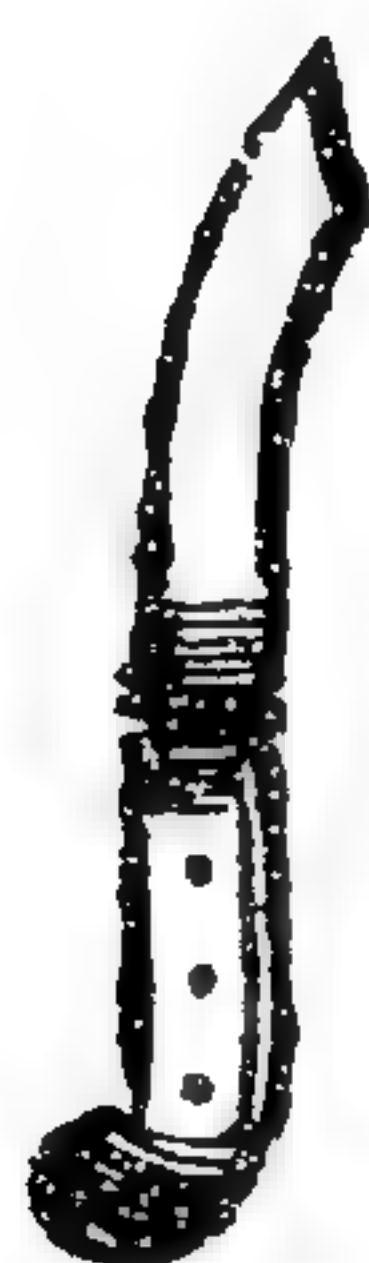
*. Fig. 1. and 2.

side-ways, such a shaped Knife becomes almost of no Use ; at least it must be used very awkwardly,

Besides, in all Cases that require much Strength, a Mallet and Chisel are without Comparison best, safest, and most exact ; and in other Cases also too stubborn for the Knife alone, a Stroke of the Hammer on the Back of my Knife answers the Purpose to great Nicety and Exactness. But the most general Use of a Knife, is to shorten all the lesser Branches that grow upwards and sideways ; to perform which, a Hawk's Bill is the most awkward Shape in the World : And therefore the Shape of a Knife which I always use and recommend to my Friends, is just the Reverse of *that*, a little sloping off, and round towards the Point : And how much more natural and useful such a shaped Knife is like to prove to one that uses it in upright and horizontal Branches, and *that* generally above Head, I leave to the Judgment of the ingenious Practitioner ; only giving him here the Figure of both, the better to direct his Choice.



An irregular Tree
neglected



The same irregular
Tree reduced
in Time.

But it may not be amiss to add here, that such a Knife ought to be made with a good thick Back, the better to bear the Stroke of a Hammer upon occasion, and if possible of Razor-Mettle well tempered, that it may always have a good Edge, and be used as a Penknife, as well as for Pruning.

Having now settled this Point, the first Mistake in Pruning that I observe is, letting a Tree from the beginning run out into vigorous Wood and Branches all on one side; and because the Shoots on the other side are weak and unthriving by reason of Blaft or Canker, the other are wont to be continued, and the Trees suffered to grow in a very irregular and unhandsome Fashion; whereby it comes to pass, that a great Part of the Wall is unfurnished with Branches, and by a continued Neglect, the proper Beauty and desired Fruitfulness is not capable of being restored, but by planting a new Tree. Whereas had this Evil been observed and remedied in time, *all* might easily have been reduced into the greatest Beauty and Order imaginable; as may be seen by the two foregoing Figures. For when Branches are young and tender, they are *ductile* and *governable*, and you may with Care *lead* them backwards and forwards, as Occasion and Necessity require. Neither is this Method any the least Blemish or Hindrance to the future Prosperity and Fruitfulness of the Tree, but rather a Furtherance by reason of that early Check it received in its most vigorous Part, which (as I have elsewhere observed) throws it sooner into a bearing State. And it is also to be observed, that such a Check does not in the least hinder its Prosperity: For there is this difference between

tween a weak sickly Branch, and a vigorous Branch made weaker, rectified and subdued by Art: The one is in a dangerous dying Condition, for want of proper Wood and Pores to convey the Sap and Juices in their continued Circulation * ; the other has its Ducts and Passages only a little straitened, by being horizontally bent and bow'd down ; lest it spend its Vigour all at once, and die the sooner afterwards. In short, the one is dying and generally past Recovery ; the other would live too fast, if not kept within due Bounds and wholesome Rules, which give true Life to the *vegetable*, as well as the *moral* World. This Reduction of a young Tree, which I am speaking of, chiefly respects the Peach and Apricot ; no other Tree that I know of being so subject to decay by Blast and Canker on one side and not on the other. And now I have mentioned *them*,
before

* What I have said in my former Treatise (Pag. 36.) amounts to a plain Demonstration of the Circulation of the Sap in the Jessamine, tinged all over by Inoculation. For tho' (as hath been objected) that Operation hath not the same Effect in the painted Philerea and Holley ; and tho' we could not account for the Reason of such a difference Phænomenon ; yet still the Proof is undeniable in the Jessamine. But indeed the true Reason of that Difference seems to be plainly this ; the Bark and Leaves of those Ever-Greens are so tough, hard and stubborn, that they do not easily suffer any adventitious Juice to alter their natural Colour ; and we find some sorts of them will hardly retain the Stripe, made even from the Shoots of the Bud itself. Whereas the Jessamine hath a marvellous thin Bark and filky Leaves, which easily receive an Impression and Change of Colour from a ting'd or poison'd Sap, continually circulating through their Veins or Pores.

before I leave them, I shall take notice of a Defect in Pruning, more peculiarly prejudicial to these, than to any other sorts of Fruit-Trees; and that is, leaving the Woodbranches of the aforegoing Year too long. This, tho' it is a general Fault in Pruning; yet it is of worse Consequence in the Peach and Apricot, their Bark, after two or three Years, growing so thick and tough, that they will not put forth new and tender Shoots any more after they are shortened, as the Pear and Plumb will do; which is the true Reason of that Barrenness so frequently visible in Peach-Trees toward the bottom, having been suffer'd to grow too fast, and run into long Wood-branches in their Youth. I am sensible several Persons are very regardless of this; especially such as are blessed with a more than ordinary warm good Soil; and are apt to triumph with their Plenty, without minding the strict Rules of Art, or, it may be, attribute their Success to their own particular Skill. Whereas Nature itself, with little Art in such Soils, will do Wonders for a time: But then they must remember, that their Trees will be shorter-liv'd: And accordingly in such Cases, as I have observed, great Barrenness in time will be discovered in the middle and bottom of the Walls, as a Fore-runner of Death. It is a certain Truth, *good pruning* not only procures *Fruit*, but makes *lasting Trees*,

Having given this Caution, I need not add any thing farther concerning Rules for the Government of the Peach and Apricot, if what I have already said in my former Treatise, be but well minded and considered. Only before I leave this Head, I have something particular to say with respect to the Government of the Pear and Plum,

D

both

both those against the Wall and Dwarfs, which will in a great measure cure the Defect of bad pruning in old Trees, and prevent the Danger of Barrenness in young ones, arising from too great a Degree of Vigour, which these Trees are most subject to.

For *First* ; As to the Case of a young Tree, that discovers an extraordinary Vigour after planting, nothing so effectually brings it into a bearing State, as some way or other checking the Sap in its free Circulation, either in the Root or Branches. Now tho' I have sometimes practised *this* with Success on the Roots, by shortning several of them with a sharp Spade ; yet because this working *under Ground* is a blind and uncertain Remedy, I rather prefer practising upon the Branches with my Knife ; where I can see what I do, and make a Wound as little and as big as I please. In the Case therefore here supposed, I cut the most vigorous Shoots two parts in three through, with a pretty large Notch, lest it heal over again too soon, and recover an undesirable Vigour. Beside the Advantage of bringing a Tree sooner to a bearing State, there is this farther Benefit to be had by this Method, *viz.* you may lay all *untoward* Branches just as you please, humouring the Notch so, that the Branch may fall handsomely into the Place desired ; so likewise all perpendicular Branches, and all such as grow forward, may, if occasion be, easily be reduced horizontally, and nailed close to the Wall in a void Place where they are wanted ; and if it is a Dwarf, this *Incision* is of singular use to rectify *aspiring* Nature, to keep down all perpendicular Branches, and to give the Tree its exact open
Air,

Air, and that proper Beauty and Form, which a Dwarf requires. There need not be much fear of making the Wound too big; for provided there be but any little reasonable Quantity of the outward Bark or Rind left uncut, a Branch of a *Pear especially* cannot ordinarily be killed, but will soon, *too soon* recover its Vigour. Only with respect to Dwarfs it must be observed, that where the Incision is made pretty large, and the Branch much weakened, it is very convenient to strengthen it for a time by a Prop, against the Violence of Winds; till the Wound is a little healed over, and it recover a sufficient Strength to support itself; which yet it will be observed to do in one Summer.

Secondly, When the Pear and Plum have been suffered several Years to run into Wood and many thick perpendicular Branches, (the Effect of bad Pruning and the certain Cause of Barrenness) after some of the biggest Wood is entirely cut out, the best Remedy that I could ever yet find, is to make these *Incisions* with a Mallet and Chisel, on some of the largest and most upright Branches that are left; sometimes *two or more* even in the same Branch. This I have often experienced to produce Plenty, sometimes the first Year, but most commonly the second after the Operation. But indeed it is not always a Sign of bad Pruning, if vigorous Trees need such Checks as these; for the Pear on a free Stock is hardly to be kept within Bounds, or pruned with any constant Success *without* them: But *with* these Helps and a due Regard to the Rules of Pruning, which I have already laid down (Part 1.) there is little Danger of wanting a Crop almost every Year;

D 2

especially

especially if what I have observed to be much wanted in these vigorous Trees, be but minded and practised: *viz.* never to let the Branches stand *too forward* with knotty Wood; but either to cut them quite off within half an Inch of the great Wood-branches, or else, as Occasion serves, to *plash* them by *Incision* as before, or rather *break* them with the Hand half through; by which means they become Fruit bearing Wood, and you fill the Vacancies of the Wall, bending them, as you please, from the Place where they were cut or broken.

I have frequently practised this with Success on the young Wood-branches, even of the Peach and Apricot, when they have happened to form themselves direct forward, or toward such Places where they were least wanted. And these Branches thus wounded have continued several Years bearing Fruit. But yet because they will often die with Gum, this must not be made a common Practice of, and ought only to be used in those Cases, where their dying is only the Loss of such Shoots, as would otherwise have been of no use. But the Pear and Plum are of so strong and hardy a Nature, that you cannot ordinarily hurt them by *Incision* or any *moderate* breaking of their Branches. I know not whether I need to add, that the Vine and Fig will by no means endure such course Treatment, the ingenious Observer well considering, that *Discipline* is always to be suited and proportioned to the *Strength* or *Weakness* of Nature.

N. B. Although this Operation of managing young vigorous Branches by *Breaking*, and the larger ones by *Plashing* or *Incision*, be to be practised any time of the Year; yet I prefer doing it in the
Spring,

Spring, especially making the larger Wounds, on the Account of the Winter Wets and Frosts, which will then be over; tho' any Danger from thence may easily be prevented, by only applying a little Cow-dung to the Wound. As to the *general* Practice, a watchful Eye will see Cause to use this Method, not only in the Winter, but all the Summer Season too, as Occasion and Necessity require.

N. B. A dry Summer naturally disposeth almost all Trees to bear well the following Year; therefore in a wet Summer, Fruit-Trees require more than ordinary Care and Art, to hinder their running into Wood and fruitless luxuriant Branches.

N. B. The Art of checking the Sap both in Root and Branches, may be very successfully apply'd to such flat Dwarfs, as are intended to be only about two Feet high, humouring the Borders, whether they be Apples, Plums or Pears: tho' it is most proper the Apples should be on Paradise-Stocks, and the Pears on Quinces, the more naturally to answer the Purpose of having less Wood, and a sufficient Quantity of Fruit. For indeed the true Art and Mystery of making a Tree bear Fruit, is only to Proportion the *Degree* of Sap and Vigour to the *Quantity* of Wood or Branches. When that Matter is once rightly adjusted, you have every thing that Beauty and Prosperity can give. So when a Tree wants Sap and Vigour, it languishes and dies; and when it has too much, it runs into Wood and fruitless Branches. How well this Proportion may be kept with respect to Fruit-Trees set in Pots, I am not as yet able to say; because I am but *now* making the Experiment of a Peach, an Apricot, a Fig, and a Cherry so ordered. There *can* be no Danger of too much Vigour; all

the Difficulty will be to give them *Moisture* and *Nourishment* enough in so small a Compass of Earth, and to preserve their Blossoms from Blasts and Frosts; which yet I hope to overcome, by *Housing* them at Nights in the Spring, and setting them pretty deep in the Ground in the Summer, on a good Exposition, allowing them plentiful Wat'ring.

But the Success of this being uncertain, I shall say no more of it; but shall leave this, and what else I have said on this Head to the Judgment of all ingenious Improvers of Art and Nature; whose modest Enquiries ought the rather to be encouraged by all wise and good Men; because the more we search, the more we still discover of the divine Bounty and Goodness to Mankind.

The Fourth and last General CAUSE of
B A R R E N N E S S.

THERE remains in the last Place to say something of a very different Cause of Unfruitfulness from any that have hitherto been taken notice of; and that is *cold unkind Seasons*; but especially *Frosts* and *Blasts* in the Spring. This will readily be granted to be, not the *Fault* but the *Misfortune* of the Gardener; and such a *Misfortune* too, as they who live on the Continent are not so subject to, and therefore in a great Measure peculiar to us who live in an Island.

However, to remove all Cause of Complaint, and to keep us from repining, Providence has been very liberal to us in some peculiar *Blessings* other ways. We are not subject to the Excesses either of Cold

or Heat; and Nature assisted by Art produces for us the choicest Fruits: We abound in that which is properly the *Staff of Life*; and, which crowns all other Blessings, we live under such an happy Government, that what we *have* we enjoy.

These Circumstances so desirable to us, and so much the Envy of our Neighbours, are by no means to be forgot by us, when we remember the Infelicity of some unkind Seasons. And yet because these Frosts and sudden Blasts are so much the real Grief of the ingenious Gardener, when he sometimes sees all the Fruit of his Labour, and his Expectations brought to nothing even in one Night, it may be well worth the while to enquire, whether a better Remedy than what hath hitherto been thought on or practised, may not be found out to cure this great Evil and dangerous Enemy.

The general Method hitherto used by careful Gardeners to preserve Blossoms and tender Fruit from the Blast in the Spring, is to hang up Bass-mats or other warm Coverings, which are rolled up in the Day-time, and let down in the Evenings, when most danger is suspected. This Practice hath sometimes succeeded very well, and preserved some of the choicest Fruit: But there are these four Inconveniencies attend it. First, it is very chargeable to provide so many large distinct Mats, as every full grown Tree requires. Secondly, it mightily increaseth the Gardener's Care and Trouble to manage and adjust so many Mats every Morning and Evening; even in the most busy Time of all the Year. Thirdly, Frosts do oftentimes come so unexpectedly and even so late in the Year as the Middle of *May*, that if the Mats happen not to be let down or continued, all former Care is lost, and

and most of the Fruit destroyed even in one Night. And yet, Fourthly, when the Mats *are* ordered and disposed as they should be, if high and black Winds arise, I have often found, that the Mats have done more Harm than Good, by their continual beating off the Blossoms and tender Shoots.

These Inconveniencies have put me often upon considering, whether a better and more effectual Remedy might not be found to prevent the Mischief of these destroying Frosts; for which Purpose, if the following Discoveries and Directions prove of any real Service to the general and publick Good, I freely own the first Hints were made and given me by a very ingenious Gentleman and worthy Friend, himself a great Lover and Improver of vegetable Nature.

Now these Hints proceeded, I think, upon a right Supposition, that most of our Frosts and Blasts both in Spring and Autumn, *fall perpendicularly*; that is to say, the condensed Vapours *falling* from the upper Region do form themselves at Night toward the Surface of the Earth in Dews and wat'ry Drops, subject to be frozen by the Coldness of the Air: And therefore the more any thing lies open and exposed to this perpendicular *Descent* of Vapours, the more will it be subject to be *frozen*, or (which is the same thing) *blasted*. The Truth of which is confirmed to us both by Reason and Experience. As when a Fruit-Tree hath been set against a Slope-Wall, for the Convenience of receiving more of the Sun's Rays, we always find that *that* is the first and most blasted both in Spring and Autumn.

This therefore being the true State of the Case with respect to most of our destructive Blasts, a little Philosophy will teach us, that *horizontal Shelters* are the best Guard and Defence against *perpendicular Frosts*. And this is that which my worthy Friend made Experiment of in artificial ones made of Tiles or thin bits of Board fastened in the Wall, which he found (as I have myself also found since) to answer to a Wonder, and to secure the Fruit where-ever they were placed.

However these artificial Shelters thus *occasionally* placed, were rather used by Way of Trial and Experiment, than with any View to have them generally made use of in that Manner. I have therefore since considered with myself how these *horizontal Shelters* may be so contrived, as to make either little Trouble or Charge, and to be of general use; especially to such as have a Fruit-Garden, such as I have above described, yet to make; or are willing to make new Walls for the greater Security of having Fruit.

Now the most plain and easy Method of doing this, so as to answer our Purpose all at once, is to lay Rows of Tiles in the Structure of the Wall at certain Distances one above another, the Tiles jetting forward and hanging over the Plane of the Wall about an Inch and half. This is neither a difficult nor a chargeable Practice, if the Wall be of Brick, to place, betwixt every two or three Rows of Bricks, these horizontal Shelters of Tile; and if the Wall be of Stone, if the Joints be any thing regular, it is not less easy. But now to avoid the Inconvenience and Unseemliness of Branches riding over the Edges of Tiles, it must be remembered, that at some convenient Distances in each Row of
Tiles,

Tiles, there be left *void Places* or *Gaps* for the Wood-branches to pass ; which Gaps should also be left wider at the Bottom than the Top of the Wall. It is very material also to observe, that the Rows of Tiles should not be laid exactly horizontal, but rather a little *dipping*; the better to shoot off all Wet.

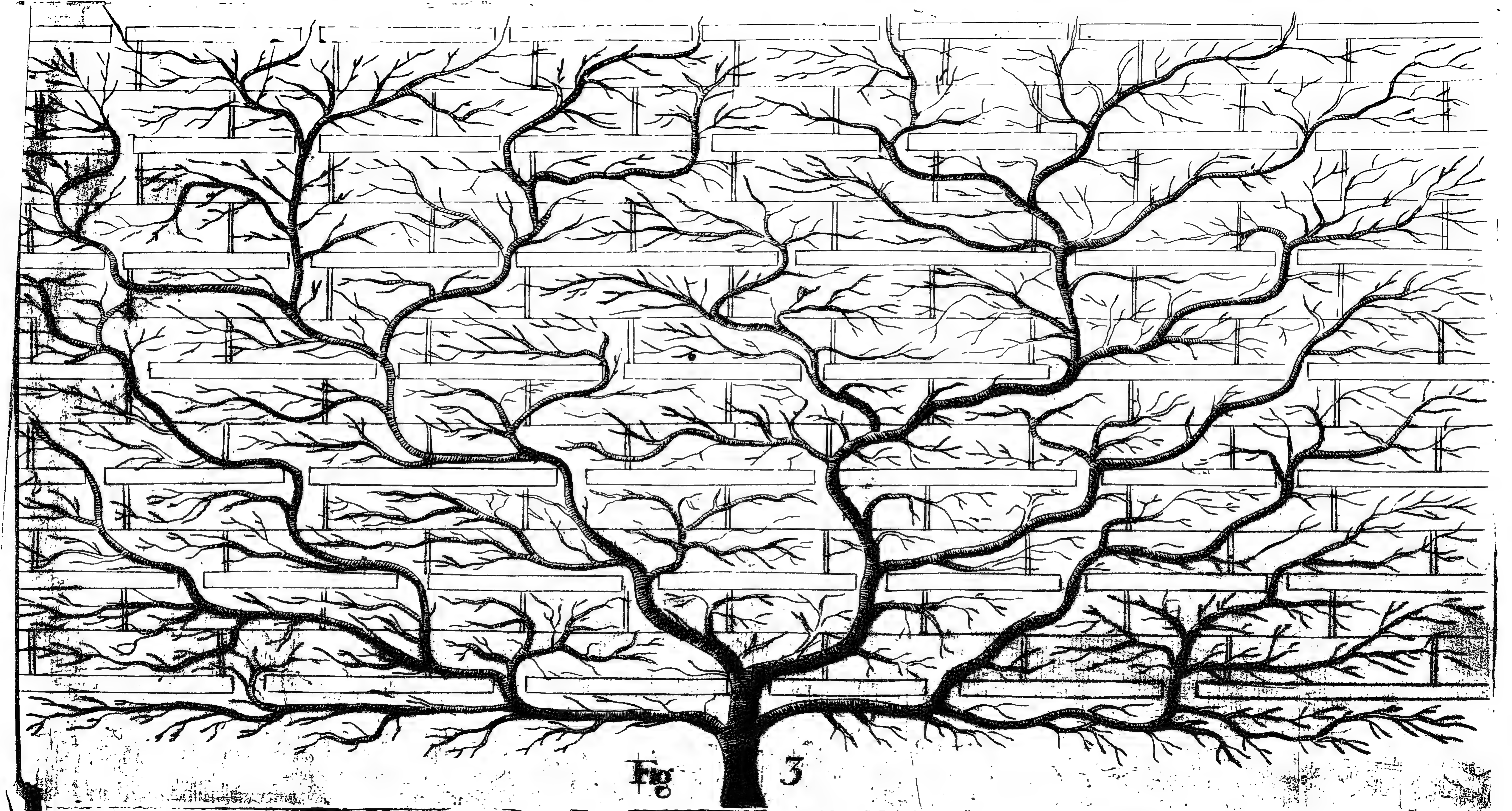
But to make so considerable an Improvement in Gardening plain and intelligible, I have thought fit to annex a Figure of a Fruit-Tree growing against a Brick-Wall with horizontal Shelters* ; that at one View may be seen, not only how naturally the Wood-branches may be carried thro' the several Gaps, and all the void Places of the Wall filled ; but also how a Tree managed according to Art, ought to grow and spread with horizontal Branches, and form itself in every Part regularly.

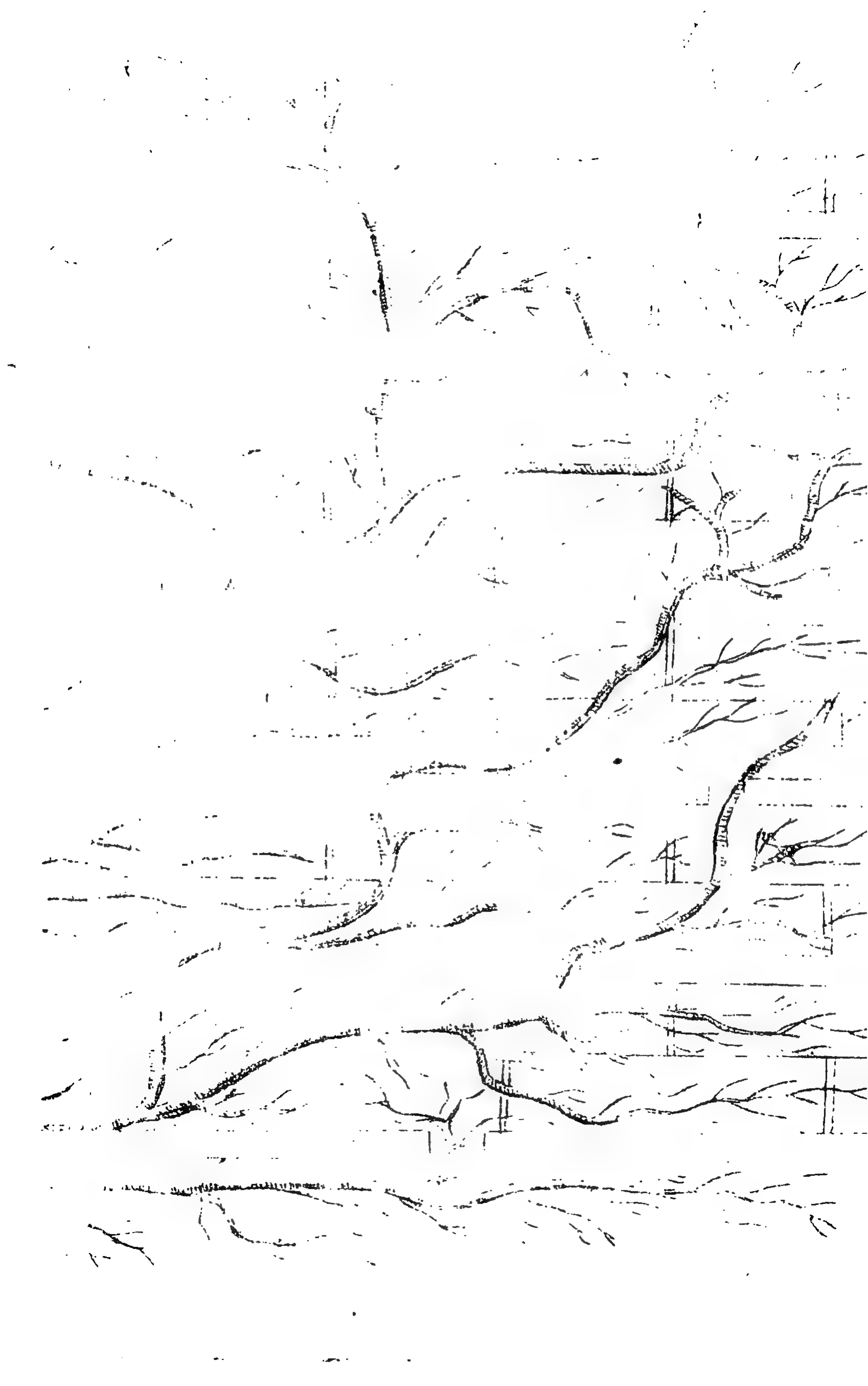
How these *horizontal Shelters* of Tile may be fix'd to Walls already built, I am not so well able to say ; tho' I believe it *may* be done, especially on Stone Walls where the Joints are generally wide enough to admit the Thickness of a Tile : But because the Benefits attending this Method of Improvement, are still more and greater than any I have yet taken notice of, it will be necessary to be a little more particular, to encourage the building these Walls. For,

(1.) By the Help of these Shelters, even in the most difficult Year, a good Quantity of the choicest Fruit may *almost* be depended upon, from such Branches and Blossoms as are well sheltered by the Tiles, as Experience hath sufficiently shewn.

(2.) And,

* See Fig. 3.





(2.) And, which is very considerable, Fruits thus sheltered from perpendicular Colds and Blasts, I have experienced to be much *larger, better fed and finer tasted.* than those on the same Tree that are more exposed. And as a Consequence of this,

(3.) They are also *forwarder* and much *earlier ripe* than others; which is a considerable Advantage; especially with respect to all late ripe Fruit, such as Peaches, Figs and Grapes, which in many cold Summers, without such or the like Helps, would never be ripe at all. For tho' one might be tempted to think rather the contrary, on the Account of some of the Meridian Rays of the Sun can hardly be supposed to reach the Fruit most sheltered; yet considering that the very Branch on which the Fruit grows, hath the utmost Degree of Heat; that the Fruit itself, tho' not so much directly shone upon, is yet fed with the freest Circulation of Sap, and kept in a more even Degree of Warmth; and lastly, that the Fruit thus sheltered receives no small additional Help by the Reflection of the Sun's Rays from the Row of Tiles below it: On all these Accounts it should not seem strange, that *horizontal Shelters* do really accelerate the ripening of Fruit, especially when it is so well confirmed by Experience.

(*Fourthly and Lastly;*) Walls built with these Rows of Tiles, will effectually cure that common Mistake in Gardeners, of leading Wood-Branches perpendicularly; for if the Gaps be left, as they ought, not one directly over another in several Rows, the Branches will unavoidably be disposed, as they ought, something horizontally, and the Middle of the Tree kept free from great Wood.

Indeed

Indeed the Gardener must have a very unhappy Genius, if he can in these Cases prune a Fruit-Tree amiss. For if he do not leave the new Shoots too long, the Necessity of leading the Branches backward and forward (as may be seen in the Figure) will of Consequence produce bearing Wood.

N. B. It is of great Consequence to be pretty exact in keeping the *Projection* of Tiles to about an Inch and a half. For if more were allowed, and the Tiles stood farther out, too much of the Sun's Rays and Heat would be kept off from the Fruit and Branches; and if less, it would not be a sufficient Shelter. Either Extreme would be worse: And I believe it will be found that the Middle Proportion here mentioned will best answer the Purpose of this Improvement.

N. B. In the Case of *black Wind-Frosts*, which come more horizontally, altho' these *Shelters* will be of singular Advantage; yet it may not be improper in *Extremities* to hang up Mats against some of the tenderest Nectarines and Peaches. The Danger of having the Blossoms and tender Shoots beaten off by the Wind, will be effectually prevented by the *Projection* of the Tiles.

Note, Lastly. The foregoing Account of the *falling* of Vapours and forming themselves in Mists or Dews subject to be frozen, will serve to explain that very odd Phænomenon I have often taken Notice of: *Viz.* The Leaves and tender Shoots of a tall Ash-Tree in one of these blasting Mists may be observed to be frozen, and, as it were, sing'd in all the *bottom* and *middle* Parts, whilst the *upper* Part of the Tree, that is exalted above the Influence of the Mist, shall be left free and untouch'd.

I need not apply the Philosophy of this to the Purpose of our *horizontal Shelters*: And a good Man need not be told, that tho' he is allow'd to guard himself by all prudential Methods against Misfortunes; yet his *safest* and *wisest* way is always to look *upward*; to pray for and expect the supernatural Aids of divine Grace to sweeten and allay the Miseries of Life.

Thus I have gone thro' the Substance of what I at first purposed in this Treatise; *viz.* to point out the chief and most general Causes of Barrenness in a Fruit-Garden, and to provide proper Remedies against them. And how far that Design hath been answered in the aforegoing Pages, I must leave to the candid Reader to judge: Only taking Notice here, that what remains to be said in the concluding Part of this Treatise, shall be only some farther Observations and Improvements, relating to the Art of Gardening, loosely set down, without any great Regard to Order or Connexion.

Concerning the great Use and admirable Qualities of Untry'd Earth.

Without intending in the least to derogate from what the ingenious Mr. *Evelyn* and others have said, concerning the several Sorts of Earths and their Improvements, I think my self obliged to repeat and explain more largely, what I just hinted at in my first Part of Gardening; *viz.* the surprizing Success which I had from the Use of *untry'd Earth*, both with respect to what has been sowed and planted in it.

By

By *untry'd Earth* I mean such warm, mellow, rich Soil, as lies next the Surface (after the Turf is pared off) about Six or Seven Inches deep, in such Places where neither Plough nor Spade hath ever come. Neither is this so difficult to be had as some may think, most Lordships (as far as my Observation has gone) affording it in one Place or other in sufficient Quantities; either in the lower Grounds and Meadows sometimes overflow'd, and so enrich'd with drift Sand; or in the several Wafts, Commons, or other By places frequented by Cattle; and this Earth will in great Measure discover itself to skilful Judges, in the several *Gramens*, by the Turf which grows upon it.

Taking it therefore for granted, that this rich *untry'd Earth* may be had without any great Charge or Difficulty, from the Experience I have had of its surprising Productions. I cannot but again and again recommend the Use of it for *Amendments* and *Improvements* both in the Fruit and Kitchen Garden. This I am aware will be thought strange by all those who have a Fondness for Dung, and think no Riches can be had without it. But I am well satisfied no Sort of *Composition* made with Art, can be brought to exceed in all Respects this which Nature offers so freely to our Hands. For if you plant the choicest Fruit-Trees in this Earth, they presently discover an uncommon Healthfulness and Vigour: If you sow any of the tender Sorts of annual Plants, if the Earth be discreetly chosen and made fine by a Sieve, you may presently perceive they like the Soil by their flourishing Looks and Colour. Even Mellons and Cucumbers, which are usually nursed with the greatest Art, and complimented with the richest artificial

artificial Mould, do prosper here to a wonder ; and if they have but equal Care in other Respects, need no other Compost than this *untry'd Earth*.

Nay farther, in a Case where Dung has always thought to be wanted in greatest Abundance, (and it is accordingly *loaded* in at a great Expence) I mean in the making an Asparagus Bed, here all or most of that Expence is saved, and the Purpose as well, if not better, answered by the sole Use of *untry'd Earth* laid a Foot and half deep.

But lest it should be thought that I intend this *Nostrum* as a Sort of *Catholicon*, or Quack-Pill, to serve all Purposes alike, I think myself obliged to say, that I know of no extraordinary Excellence in this Earth with respect to Flowers; especially the nicer and more tender Sorts, but rather the contrary : So also for the several Sorts of Exoticks and choice Shrubs, a proper artificial Composition may be much better and more suitable to them than this rich Earth : But then in all such Cases and Instances, as serve to make a Garden fruitful and profitable (which is to my present Purpose) as far as my Experience reaches, this *untry'd Earth* is much preferable to rotten Dung or the common artificial Composts, for the following Reasons.

First, Dung, where it is laid in any Quantity, mightily fills the Place with many noxious Weeds; which, without great Care and Pains, will be apt to choak whatever is sowed or planted in it. But a Covering of this new Earth, being immediately fit for Use, is not so subject to that Inconvenience.

Secondly, Altho' plentiful dunging the Soil must be owned to be a great Amendment, and tends to make it rich and fruitful; yet Experience shews that all Legumes and annual Plants for eating, have
by

by no Means so *sweet* a Taste, as those raised in pure *wholsome* Mould; such as every one knows new broken up Ground produceth. Nitre and Sulphur are indeed the Life of Vegetation; but Dung, tho' full of them, contains also many other noxious heterogeneous indigested Juices, which generally give a strong and unsavory Taste to every Thing sowed and planted in it. Whereas Earth taken from under an old Turf, having a sufficient Quantity of Nitre or Sulphure, or both, sufficient for the Purpose of Vegetation, hath all its Parts well mixed and incorporated, all its Juices are mellowed and refined by Age, and want only to be exposed to the Air to exert themselves. For which Purpose Monsieur *Quintiney* rightly observes, that the Sense of Smelling is a proper Judge of the Goodness of Earth; because an *ill Smell* will be sure to give an *ill Taste*.

This Matter is made plain to a Demonstration in the Quality of Asparagus planted in and about *London*; where having plenty of Dung, they form their Beds altogether of it at a great Depth; the Effect whereof is, that they have indeed exceeding large Asparagus; but of a Colour so *unnatural*, and a Taste so *strong* and *unsavory*, that none who have tasted our finer and more natural Sort in the Country, will covet the former. And yet if it were any Recommendation of it to have it so very large, *untry'd Earth* may boast of Productions equal to those at *London*; but indeed to me it seems a Fault, to have Asparagus too large as well as too little, for this Reason; because being subject to a Sort of Pith and Hollownels in the Middle, when it is very large, the Water it is boiled in is apt to lodge there, and gives a wat'ry insipid Taste to it. But still I may add,

Thirdly,

Thirdly, That tho' most of the artificial Composts come nearest to the excellent Qualities of this *untry'd Earth* especially when they have had sufficient time to mellow and incorporate; yet this is cheaper; always ready at hand, and immediately fit for use: By which means the greater Quantity of Dung will be spared and allotted for the Pasture and Corn Land.

N. B. A Coat of this *untry'd Earth* laid only two Inches deep is sufficient for most sorts of annual Plants from Seed, such as Beans, Peas, Lettuce, Spinage, Onions, Kidney Beans, &c. (except Carrots, Parsnips, &c. which require more) and will last well three or four Years without any other Amendment: And longer still, if only a little Coat of Dung be allowed as a Foundation for this Earth.

N. B. The Parings of Turf taken off where this Earth is found, if not otherways required, should be laid on Heaps to rot two or three Years; and this will produce incomparable Soil for Amendments; the oftner it is stirred, the better.

If it shall here be wondered at, that I say no more of the Management and Improvement of the Kitchen Garden, I have only this to say, That Subject seems to have been already exhausted, by the many several Authors that have treated of it. Besides, there seems to be nothing difficult in it; Every Man that can but handle a Spade being able and ready to give Instructions for what is proper to be done in all the several Parts of the Year. Only there is one thing relating to the Management of Hot-Beds, whereon Mellons and Cucumbers, &c. are wont to be raised, which it may not be amiss here to take notice of; because, tho' it

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hath

hath been practised with Success by some of the Gardeners near *London*; yet other Persons curious in that Matter, not being apprized of it, may think themselves obliged for the Relation.

Instead of making the Glass Frames, as is usual, open at the bottom, they may be made with strong Wires crossing one another, so as to be able to support a Bed of Earth four Inches deep for the several Plants to grow in: And thus the whole may be lifted by four Men from one Hot-Bed to another. as occasion serves. This Method has these two very considerable Advantages attending it. First, this saves the Trouble and prevents the Danger of *transplanting*, which oftentimes proves fatal; but always proves a great Check to the Growth of those tender Plants: Secondly, here is no Intermission in the Growth of the Plants, nor any artificial Heat of the Hot-Bed lost or wasted, which in the ordinary Methods cannot be avoided; for there you must wait Six or Seven Days, till the great Heat be abated, lest the tender Roots of the Plants be scorched: Whereas in the Case before us, you may allot just what Degree of Heat you please; for when the Heat is too violent, the Frame may be placed something hollow from the Bed; when it abates, it may wholly rest upon it; and when the Bed grows too cold, the Frame may be carried to another.

But I leave this Matter with the Curious to apply it as they see occasion, and to make farther Improvements; intending here only to give some short Hints of what I suppose may be made useful to the Publick, and acceptable to all contemplative and ingenious Gentlemen. Hoping therefore that what follows may also prove it, I will add some
Part

Particularities relating to the raising and managing Fruit-Trees not yet touch'd on,

Experience having made it plain, of how great Consequence it is to have all the tenderer sorts of Fruit put upon right and proper Stocks by Inoculation, especially where the Soil is cold and wet: And it being also found to be a Matter of some Difficulty to make the Stones of the larger sorts of Plums to grow, seeing they commonly fail by being kept either too wet or too dry, I have thought upon and practis'd an Expedient, that doth, I think, effectually answer the present Purpose, *viz.* to inoculate the common ordinary Plum-Stocks or Suckers with the Pear, Muscle or Bonum magnum Plums, and then upon the Shoots of these to put the Peach, Nectarine, or Apricot, as you desire: And the Operation may be performed upon the first Years Production from the Plum-Stock; so that little Time need be lost.

The Propriety and Reasonableness of this Procedure is founded upon common Experience and Observation; that the Miscarriage of these sorts of Fruit put upon wrong Stocks is always at the Place of Inoculation; where they either put out Gum and die, by being not exactly incorporated; or else so very much swell and overgrow the Stock, that the Head is not duly nourish'd; for want, I suppose, of proper Ducts and sufficient Juices below. I mention Plum-Suckers, not that I prefer *them*; but only that I think by frequent Removes in the Nursery, they may be made to do well enough.

Altho' it be certainly known, that Grafting and Inoculation are the general Methods of *propagating* the several Kinds of Fruit already in being; yet *neither* of those Operations tend to the Production

E. 2

of

of any new Species; the Scion or Bud *always* following the Nature and Kind of the Tree from whence it was taken. From whence it follows, that all those several Species and different Sorts of the same Fruit which our Gardens furnish us withal, were originally, (and in a *good Sense* accidentally) raised from the Seed, Stone, or Kernel of every *common Genus*, whether Pear, Apple, Plum, or Cherry, &c.

I have not my self had Leisure nor many Opportunities of making Experiments of this Nature, but thus much is certain, that in the Productions of Fruit from the Seed or Kernel, Nature *commonly* and for the most part degenerates, and you have *ordinarily* from such Seed or Kernels a much worse Sort than that which was sowed. But then there is this *comfortable* Circumstance to be added, that *now and then* you have a Sort proves altogether as good as the Kind sowed; and *sometimes*, tho' not often, *much better* and *more excellent*; which has encouraged the Nursery Men to try Experiments, and has afforded those several *excellent* Sorts we daily hear of, to invite the Curious to taste the Fruit,

However, not satisfied with this general Knowledge, my Curiosity has led me to enquire of others, of more Leisure and longer Experince, particularly as to Pears and Apples, whether they had observed the Degeneracy to be greater and more universal in the Seed sowed from grafted Fruit, or that which was taken from good Fruit naturally raised. The Answer I had from one Friend was, That he could never observe the *latter* would much degenerate; for tho' 'twas often *different*, sometimes much *the same*, and sometimes, tho' rarely, *better*;

better ; yet that it hardly ever proved a Crab or Wilding: Whereas in the former Case, even from Fruit of the best Sorts grafted, the Production was commonly worse, and for the most part did partake of the Nature of the Stock, and proved a Wilding or Crab.

On the other Side I have now by me a Letter from a worthy Clergyman in *Worcestershire*, which tho' it gives a seemingly different Account from the former; yet because there are some curious Experiments in it, I shall here insert it for the Sake of the Publick.

Reverend Sir,

I Have now before me a Letter from a Friend, in which he tells me you have heard of my having Experience in raising Fruit-Trees by Kernels, and that the same hath produced Plants of different Kinds; you desire to know whether that Experiment hath been made with the Kernels of Fruit that was grafted, as well as of that raised by Seed, and what Difference I have observed between them. I have rais'd great Numbers of Fruit-Trees from Kernels, both from the grafted Fruit, and from those raised from Seed. And from the Kernels only of three or four Sorts of Apples, I have, I believe, an Hundred different Sorts; some

*The Pleasure and Profit of
resembling the Fruit sowed; some abundantly
better both in Colour and Taste, and some of
them perfect Crabs; but all of them distin-
guishable from each other; and, according
to my Observation, the greater Number of the
different Species come from the Kernels of
the grafted Fruit. If this will be of any
Service to you, I am sure it will be a great
Satisfaction to,*

SIR,

Your very affectionate

Brother, and most

humble Servant,

Edw. Whitcombe.

If

If these two different Accounts may be reconciled on a Supposition, that Mr. *Whitcombe's* Observations were made from the Kernels of Fruit grafted, not on *Crab-Stocks*, but on some of the *natural Apples* raised from Seed: Then the proper Use to be made from the whole, will be; That for all Persons curious in the Art of Nursery, the Way that is most likely to succeed in getting new Sorts, is to use the Stones or Kernels of the *natural* Sorts that are good, or rather the Kernels of the good *natural* Sorts, improved by grafting or Inoculation. But this also I leave with the ingenious Inquirers into vegetable Nature, for their farther Observations and Improvements; and proceed to

Note, Another thing worth remarking; *viz.* a very convenient Practice relating to the fastening the Branches of Fruit-Trees on old Walls. This I have observed to be done with great Expedition, by using only small Willows in the Winter, and Rushes in the Summer turned over the Branch, ~~and~~ then twisted about a Nail already fastened in the Wall. Now the great Benefit and Usefulness of this Method will quickly appear to all such, as have no better than old Walls, composed of indifferent Stone with large Joints, for Fruit-Trees to grow against: For these Sorts of mould'ring Walls are found to be much decayed and weakned, by the continual *drawing* the Nails every Season, but by this Method are observed to last many Years.

I cannot well omit describing here a very useful Instrument, contrived by a very ingenious Gentleman and Neighbour, for the more safe and ready transplanting Trees out of the Nursery, or from

from one Part of the Garden to another, as Occasion requires. It is made exactly in the Shape of a little Tub, cut perpendicularly down the Middle into two semicircular Halves, something less at the Bottom than the Top : Which Semicircles being held together by Iron Hoops distinctly, are so contrived, as when they are used, to be held together only by Iron Hooks on one side, and drawn together by a long Iron Screw on the other. For after the circular Trench is made round the Tree, it will easily be perceived, that such an Instrument must be of great Use, to hold a sufficient Quantity of Earth about the Roots, and make its Removal safe, or very little injurious. I consider my Title Page, so need not use many Words : *Sapienti Verbum.* Once more.

Because the Grape is so noble a Fruit, when full ripe, some Years so difficult to be obtained, and therefore deserves our greatest Art to encourage it, I would recommend planting the Vine on such a *South* Exposition of the House or Out-Houses, as (if possible) may have the Advantage of a Slope falling to the *South* : Which Slope (especially if it were paved with Brick, Stone or Quarrs, which is very adviseable) collecting and receiving more of the Sun's Rays, will consequently afford greater and stronger Reflections of the same from several Angles of Incidence ; and thereby much accelerate the ripening of the Fruit. I cannot easily be brought to think any Soil or Situation can be too dry for the Roots of a Vine, after having seen at *Barnwel* near *Oundle* in *Northamptonshire* a flourishing Vine grow from between the Joints of an old Castle Wall near 20 Feet high from the Ground, its Branches hanging downwards : And (as I was told)

told) when it was carefully pruned and managed, it produced admirable Grapes.

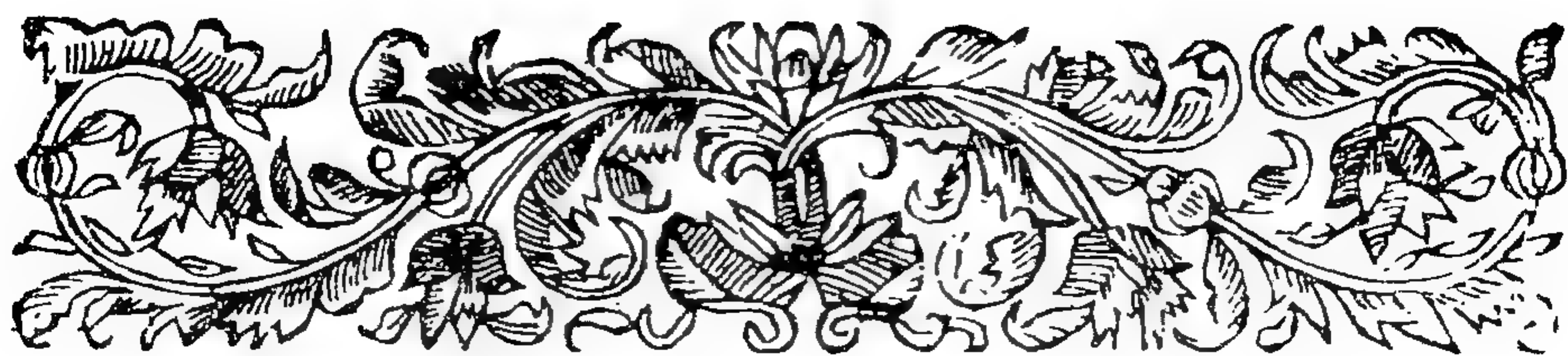
N. B. Because the chief Beauty of Trees planted in Rows for Avenues consists in their being straight, regular and upright ; and because there are many other Cases wherein it is very undesirable to have a Tree grow crooked and irregular, it may not be amiss to inform the Curious, that cutting such a Tree in the Ham or Bend of the Crook with a Knife perpendicularly, 6 Inches above and 6 below in two or three Places, will strangely facilitate its Reduction, and in three or four Years perfects its Cure, provided the Tree be but pruned up, and freed of all its Branches below and a little above the Bend, and Care to be taken every Year to renew the Slits.

N. B. Although it be contrary to common Practice and the Rules of Gardening to set Apple Trees against a Wall ; yet it may not be improper on some *West* Wall, where there is Room to spread to afford a Place for a golden Pippin, for the sake of that surprizing large Fruit it will afford, so much beyond the ordinary Size ; which may not perhaps be thought *better* : But if it be *bigger* and not *worse*, it cannot sure be unacceptable to behold and taste such a *Bonum Magnum*.

Two glorious Qualities in whatsoever Subject they meet, and are always in some Degree or other a Resemblance of the Divine Fountain of Goodness ; even of Him who is the One supreme, self-existent, independent, unoriginated ὁ μόνος ἀγαθός, ὁ παντοκράτωρ, ὁ Θεός : * To whom be Honour, Glory, Dominion and Power by Christ Jesus throughout all Ages, World without End! *Amen.*

A P P E N -

* Rom. 16. 27. Eph. 3. 21. 1 Pet. 5. 10, 11.



APPENDIX.

The following Letter was sent me from a Brother of mine in London. The Method he there gives for finding a Meridian Line appears to be m. st accurate of any that I know of.

Dear Brother,

UNderstanding you intend to direct a Method for finding a Meridian Line in your Book of Gardening, it may be you may think it of Use to the Publick to have (besides yours) a short Description of a new and familiar Way of doing it very exactly by the Pole-Star ; thus.

First, Adjust your Clock or Watch, as near as may be, by a Quadrant, or otherways. Then fix a strong Pole of about 14 Foot long as near as you can perpendicularly, and at 12 a Clock make a Mark at about 5 Foot distance in the Shadow, where you are to fix another Pole of the same Height as before, which Two Poles will be nearly
in

in a Meridian. Then at the Top of each of these Poles, nail Pieces of Wood or Iron about 2 Foot long, yet so as to be moved upon Occasion. At the Ends of these fasten Lines of fine Cat-gut, with leaden Weights at the End of them, with a Liberty of slipping backward and forward, till the Eye, the Two Strings, and the Pole-Star are in a right Line, at such Time as the Pole-Star comes to the Meridian. To find which, observe the following Directions.

Subtract the right Ascension of the Sun (which is found by the following Table for every Day in the Year) from the right Ascension of the Pole-Star (which is now 37 Minutes in Time, and increaseth 1 Minute and 16 Seconds in 10 Years) the Remainder will correspond to the Time of the Pole-Star's coming to the Meridian above the Pole, and near 12 Hours before or after will be the Time of its coming to the Meridian under the Pole. Thus because 11 °. 6. in Aries corresponds to 37 Minutes in Time of right Ascension; when the Sun is there (which is *March 20.*) the Pole-Star comes to the upper Meridian at Noon. And because 191 °. 6. of the Ecliptick (where the Sun is *Sept. 22.*) hath 12 h. 37 m. in Time of Ascension, the Pole-Star comes to the same Meridian at Midnight: And in both Cases its Hours from that Meridian agree with the ordinary Reckoning of Hours with us. At other Times it comes sooner than the Sun, *viz.* about 4 Minutes every Day, or an Hour in 15 Days. Thus *April the 22d* last Year, the Day of the great Eclipse, the Sun's right Ascension was 2 h. 41 m. in Time; which deducted from 37 Minutes, or 1 h. 37 m. the Remainder is 9 h. 56 m. which shews that the Pole-Star came to

to the upper Part of the Meridian at 9 a Clock, and 56 Minutes before Noon ; and at 9 at Night, and about 54 Minutes past to the lower Part of the Meridian, which is nearly 4 Minutes for a Day or an Hour, for 15 Days along the Ecliptick, and so in all other Cases whatsoever.

N. B. When the Sun's right Ascension exceeds 12 Hours 37 Minutes, you are to remember to add 24 Hours to the right Ascension of the Pole-Star ; the former being substracted from the latter, gives the Time in the Afternoon of the Pole-Star's coming to the upper Meridian. Thus *Jan. 5.* the Sun's right Ascension is 19 *h.* 52 *m.* which substracted from 24 *h.* 37 *m.* leaves 4 *h.* 45 *m.* and thereby shews that the Pole-Star came to the upper Meridian at $\frac{1}{4}$ past 4 in the Afternoon.

Your Two Strings being placed in the true Meridian, you may with great Exactness know when the Sun is in the Meridian, *viz.* by the Help of a smok'd Glass (to prevent the Sun's glaring in your Eyes) bring your Eye close to the *Northern* String, and when your Eye, the Two Strings, and the Centre of the Sun are all in a right Line, you may be assured 'tis exactly 12 a Clock. And because the Sun's Azimuth is swiftest at that Time, you may in a few Seconds observe its Motion from the Strings.

N. B. If you set Two Vessels of Water, so that each Weight at the Two Strings be just covered they will hang much the steadier ; and if your Observation is made when 'tis very dark, it will be convenient to have a Candle held at the *Northern* String.

An exact Meridian thus obtained being not supposed to continue in that Manner, it may not be
amiss

amiss to direct the transferring it within-side the House, in order to answer readily and exactly all future Purposes, and assist the Curious to adjust Clocks, Sun-dials and Watches; to find the true Bearing of all near or distant Places; and (which is very considerable) to find the exact Latitude of the Place, as will be easily observed by any one that hath but the least Skill in Trigonometry.

In Order then to transfer your Meridian within-side the House, make or drill a Hole in one of the upper Panes of Glass in a high Window, painting the Glass black in a Circle 3 or 4 Inches round the Hole. This done, cause a Signal to be given when the Sun is exactly in our Meridian, and at the Instant make a Mark where the Centre of the Light falls on the horizontal Floor. Then by the Help of a Plum-Line, bring your Eye, the Mark made on the Floor, and the Hole in the Glass, all in a right Line, and the String will direct you to another Point in the same Line; from which Two Points draw a strait Line made visible, and this will be a most exact Meridian. I am,

Dear Brother,

London, Jan. 5.

1716

Yours affectionately,

EDWARD LAURENCE.

A Table of the Sun's right Ascension in Time for every Day in the Year.

D. Jan. Feb. March						April. May June						
h. m.		h. m.		h. m.		h. m.		h. m.		h. m.		
1	19	35	21	43	23	29	1	21	3	15	5	20
2	19	39	21	47	23	32	1	24	3	19	5	24
3	19	43	21	51	23	36	1	28	3	22	5	28
4	19	48	21	55	23	40	1	32	3	26	5	32
5	19	52	21	59	23	43	1	36	3	30	5	36
6	19	56	22		23	47	1	39	3	34	5	41
7	20	0	22	6	23	51	1	43	3	38	5	45
8	20	4	22	10	23	54	1	47	3	42	5	49
9	20	8	22	14	23	58	1	51	3	46	5	53
10	20	13	22	18	00	1	1	55	3	50	5	57
11	20	17	22	21	00	4	1	58	3	54	6	2
12	20	21	22	25	00	8	2	1	3	58	6	6
13	20	26	22	29	00	12	2	5	4	2	6	10
14	20	30	22	33	00	16	2	9	4	6	6	14
15	20	34	22	37	00	20	2	13	4	10	6	18
16	20	38	22	40	00	23	2	16	4	14	6	22
17	20	43	22	44	00	26	2	20	4	18	6	27
18	20	47	22	48	00	30	2	24	4	22	6	31
19	20	51	22	52	00	34	2	28	4	27	6	35
20	20	55	22	55	00	37	2	33	4	31	6	39
21	20	59	22	59	00	41	2	37	4	35	6	43
22	21	3	23		00	44	2	41	4	39	6	47
23	21	7	23	7	00	48	2	44	4	43	6	51
24	21	11	23	10	00	52	2	47	4	47	6	55
25	21	15	23	13	00	55	2	51	4	51	6	59
26	21	19	23	18	00	59	2	55	4	55	7	4
27	21	23	23	21	1	2	2	58	4	59	7	8
28	21	27	23	24	1	6	3	2	5	3	7	12
29	21	31	23	27	1	10	3	6	5	8	7	16
30	21	35			1	14	3	11	5	12	7	20
31	21	39			1	17		5		16		

The Table continued.

D.	July.	August	Sept.	Octob	Nov.	Dec.
	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.
1	7	24	9 26	11 20	13 9	15 9
2	7	28	9 30	11 24	13 12	15 13
3	7	32	9 34	11 28	13 16	15 17
4	7	36	9 37	11 32	13 20	15 21
5	7	40	9 41	11 35	13 24	15 25
6	7	44	9 45	11 39	13 27	15 29
7	7	48	9 49	11 42	13 31	15 33
8	7	52	9 53	11 46	13 35	15 37
9	7	56	9 56	11 50	13 39	15 42
10	8	1	10 0	11 53	13 42	15 46
11	8	5	10 4	11 57	13 46	15 50
12	8	9	10 7	12 1	13 50	15 54
13	8	13	10 11	12 4	13 54	15 59
14	8	17	10 15	12 8	13 58	16 3
15	8	21	10 18	12 12	14 1	16 7
16	8	25	10 22	12 15	14 5	16 11
17	8	29	10 26	12 19	14 9	16 15
18	8	33	10 29	12 22	14 13	16 18
19	8	36	10 33	12 26	14 17	16 24
20	8	40	10 37	12 30	14 21	16 28
21	8	44	10 40	12 33	14 25	16 33
22	8	48	10 44	12 37	14 29	16 37
23	8	52	10 47	12 40	14 33	16 42
24	8	55	10 51	12 43	14 37	16 46
25	8	59	10 55	12 47	14 41	16 50
26	9	3	10 58	12 51	14 45	16 54
27	9	7	11 1	12 54	14 49	16 59
28	9	11	11 5	12 58	14 53	17 3
29	9	15	11 9	13 2	14 57	17 7
30	9	18	11 12	13 6	15 1	17 11
31	9	22	11 16	—	15 5	17 15

A Table shewing what Angle the Pole-Star makes from the Meridian at every Hour and Half-hour before and after the Time of its coming to the Meridian both above and below the Pole.

Hours.	Distances from the North above the Pole		Hours.	Distances from the North below the Pole.	
	°	'		°	'
12	120	006	6	3	41
$\frac{1}{2}$	$\frac{1}{2}$ 0	30 $\frac{1}{2}$	$\frac{1}{2}$	3	38
11	11	005	7	3	31
$\frac{1}{2}$	$\frac{1}{2}$ 1	29 $\frac{1}{2}$	$\frac{1}{2}$	3	28
10	21	564	8	3	07
$\frac{1}{2}$	$\frac{1}{2}$ 2	21 $\frac{1}{2}$	$\frac{1}{2}$	2	50
9	32	423	9	2	31
$\frac{1}{2}$	$\frac{1}{2}$ 3	00 $\frac{1}{2}$	$\frac{1}{2}$	2	09
8	43	172	10	1	46
$\frac{1}{2}$	$\frac{1}{2}$ 4	28 $\frac{1}{2}$	$\frac{1}{2}$	1	21
7	53	371	11	0	55
$\frac{1}{2}$	$\frac{1}{2}$ 5	45 $\frac{1}{2}$	$\frac{1}{2}$	0	27
		12	12	0	0

The Reader may observe by this Table, that if his Observation was made $\frac{1}{2}$ Part of an Hour before or after the Time Pole-Star's coming to the Meridian, the Difference in finding a true Meridian by this Method will not be sensible.

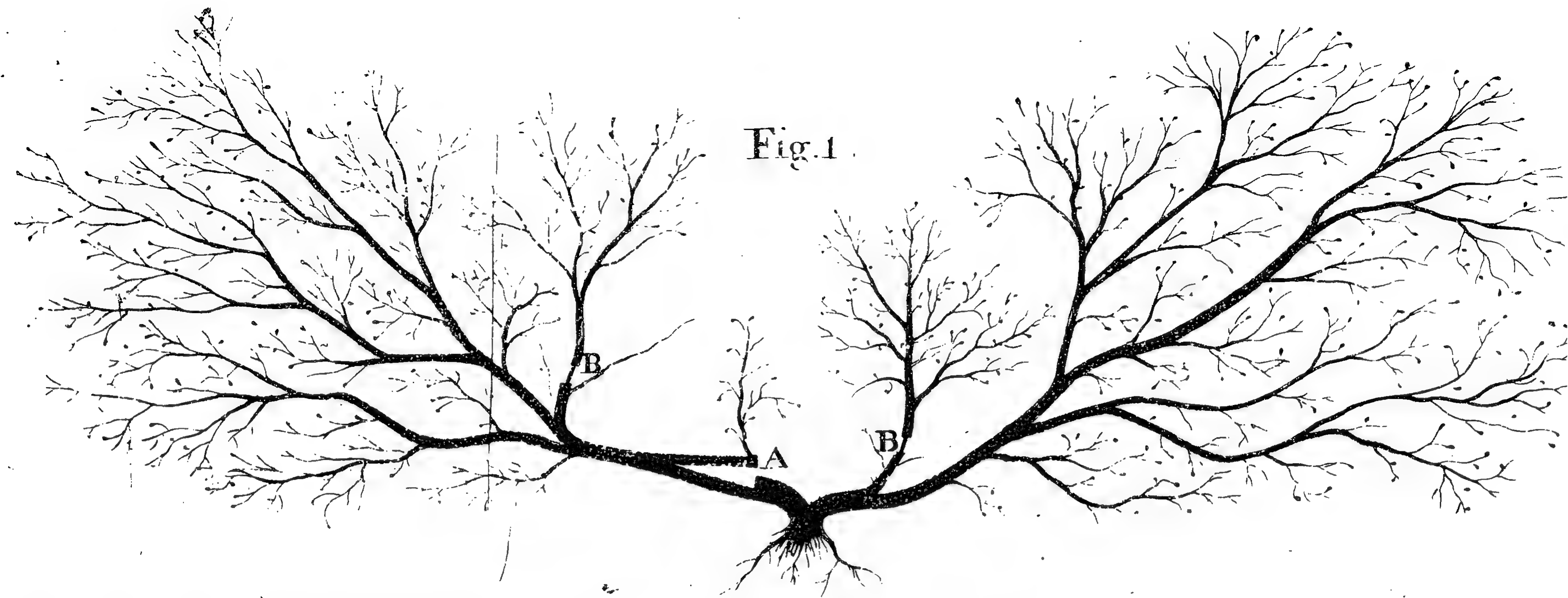


Fig. 1.

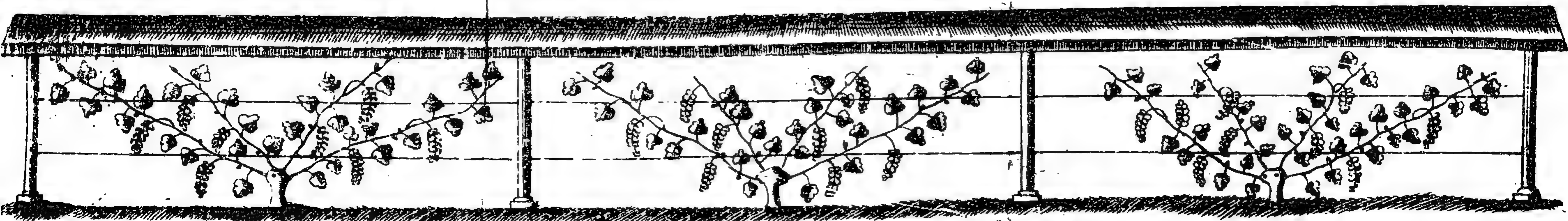


Fig. 2.

THE
FRUIT-GARDEN
KALENDAR:
OR, A
SUMMARY

Of the ART of Managing the
FRUIT-GARDEN.

Teaching in order of TIME what is to be
done therein every MONTH in the YEAR.
Containing several new and plain Directions,
more particularly relating to the VINE.

*---- Redit Horticolæ labor ætus in Orbem ;
Atque acer curas venientem extendit in Annum,
Persequitur Vitam attondens, fingitque putando.*
Virg. Geor. lib. 2.

To which is added,
An APPENDIX of the Usefulness of the
Barometer ; with some short Directions how
to make a right Judgment of the Weather.

By JOHN LAURENCE, M. A.
Rector of *Islivertoft*, in *Northamptonshire*.

DUBLIN:
Reprinted for G. Grierson, Bookseller, at the
Two Bibles in Essex-street. 1718.

~~Hf-Help~~

T O T H E
Most High, Puissant, and most
Noble P R I N C E

H E N R Y,

Duke, Marquis, and Earl of *Kent*,
Earl of *Harrold*, Viscount *Goodrich*, Baron
Lucas of *Crudwel*, &c. Lord Steward of
His Majesty's Household, Lord Lieutenant
and *Custos Rotulorum* of the County of *Bed-*
ford, one of the Lords of His Majesty's most
Honourable Privy-Council, and Knight of
the most Noble Order of the Garter.

My LORD,

T H E Honour and Greatness
never appear brighter or more
illustrious, than when they
condescend to patronize and
encourage all useful Arts and
Sciences: And to whom can any of us more
naturally run for Shelter and Protection, than

to a Person of your G R A C E's comprehensive Knowledge and Experience both of *Men and Things* ?

I own I am no Friend to the *Abuse* of A U T H O R I T Y ; but when its best *Use* and *End* are made to answer Man's Happiness and the Good of Society by Encouragements and Example, then *Authority* appears in its greatest Glory ; and such exalted Patterns as your G R A C E will draw Multitudes after you, to pursue Things that are innocent and useful.

The Subject of the following Papers in a peculiar Manner leads me to your G R A C E, the great Lover and Encourager of vegetable Nature. For tho' too many can content themselves to live upon the *Wast*, and as *Destroyers* ; yet how much a Nobler Principle is it to *plant* and *cherish*, than to *cut down* and *destroy* ? And how commendable is that unwearied Diligence in your G R A C E to leave every where growing *Monuments* of your Wisdom and Care, of your true Regard to the Welfare of late Posterity, as well as of the present Age ? How far such a gene-
rous

DEDICATION. v

rous Principle may be supposed in other Cases likewise to influence the Publick, I need not say to those that know your GRACE's Station and Conduct.

But what most of all becomes me to take Notice of, is your GRACE's *Character*, of being an Encourager, as well as an Example of Sobriety, Virtue, and true Religion ; Ornaments that make *Superiors* truly great, and highly becoming those especially, who study vegetable Nature, where nothing is found, but Wisdom, Beauty and Innocence.

That GOD would continue your GRACE a Blessing to your Family and the Publick ; That he would Crown you with all Blessings Spiritual and Temporal, and *late* reward you with everlasting Happiness in the next World, is the hearty Prayer of

May it please your Grace,

Your Grace's most Obedient

and most humble Servant,

JOHN LAURENCE.

THE P R E F A C E.

TO make my Two former Treatises of Gardening compleat, and if possible more intelligible, I have been prevailed upon to add this following KALENDAR. The rather ; because (as far as I can observe) most of our modern Authors in this Way, have done little else but transcribe from Evelyn, Quinteney, and Woolridge ; and therefore have been generally so unfortunate, as to insert their Errors and Mistakes, as well as their useful Rules.

This leads me to say upon this Occasion, for my own Sake, and for the Sake of the Publick, that the Book called the Lady's Recreation could not be published by my Approbation, because it was never seen by me, till it was in Print : Besides, I have Reason to think it was an Artifice of the Booksellers to impose upon the World, under the borrowed Name of Evelyn.

I hope it will not need an Apology, that, as a Divine, I now and then lay hold of an useful Moral, and am willing to direct the Ingenious
Natu-

The P R E F A C E. vij

Naturalist sometimes to look upward. But yet I have taken Care to avoid mere Embellishment, or at least such Things as are no Ways to my Purpose: For which Reason I could not satisfy my self to trifle, so as to tell the World, that January hath 31 Days, February 28, and the Moon 29.

Persons that have not had long Experience, may easily fall into Mistakes; and that is their Misfortune: But to lead others into Mistakes, under the Gravity of Instructors, is a great Fault; and you know not when to trust such, though they should happen to speak right.

Indeed it seems to me no small Reproach to the English Nation, that we suffer so many French Books of Gardening to be obtruded upon us, containing Rules calculated for another Climate, and which tend to lead us into many Errors.

As to my self, I am far from thinking, either that I have not been, or may not be Mistaken: But I can truly say, I would not willingly or hastily lead the Ingenious Gardener into any Error. And I believe it hath sufficiently appeared to the World, that I have all along endeavoured to make the Art of Gardening Familiar, Profitable, and Entertaining.

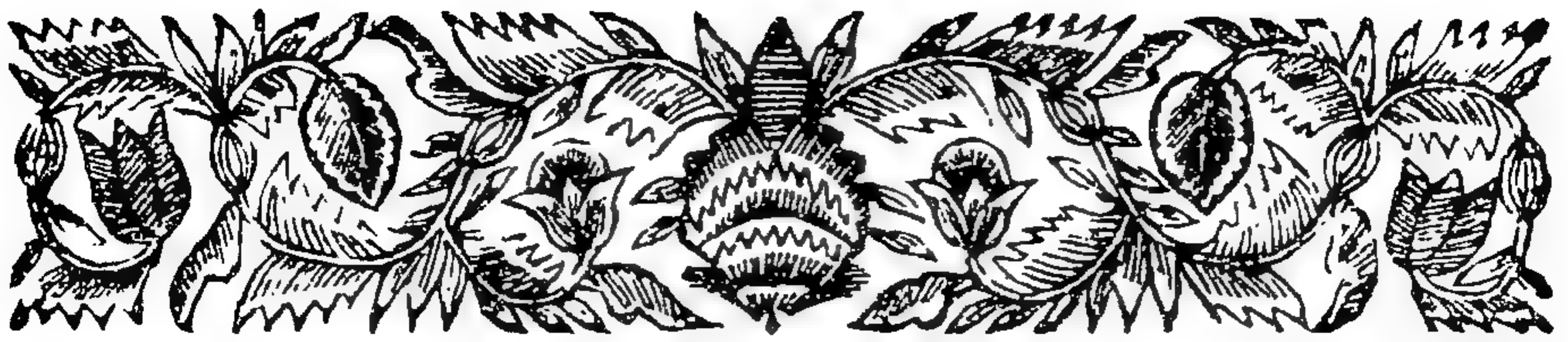
I have sometimes indeed been so unhappy, as to lie under the Imputation of Blame, for troubling the World with Rules about Gardening, and the
GOVERN-

viii The P R E F A C E.

Government of the Vegetable Kingdom, having my self only a small Garden, bad Walls, and a worse Soil. But I flatter my self the more ingenious Part of Mankind will attribute these, not to my Fault but to my Misfortune. And if under such disadvantageous Circumstances, something of Pleasure and Profit too may be had, this methinks should rather give Encouragement to All, than be the Occasion of Offence to Any; this should keep even the most Unhappy from despairing of some Reward of their Labour and Diligence.

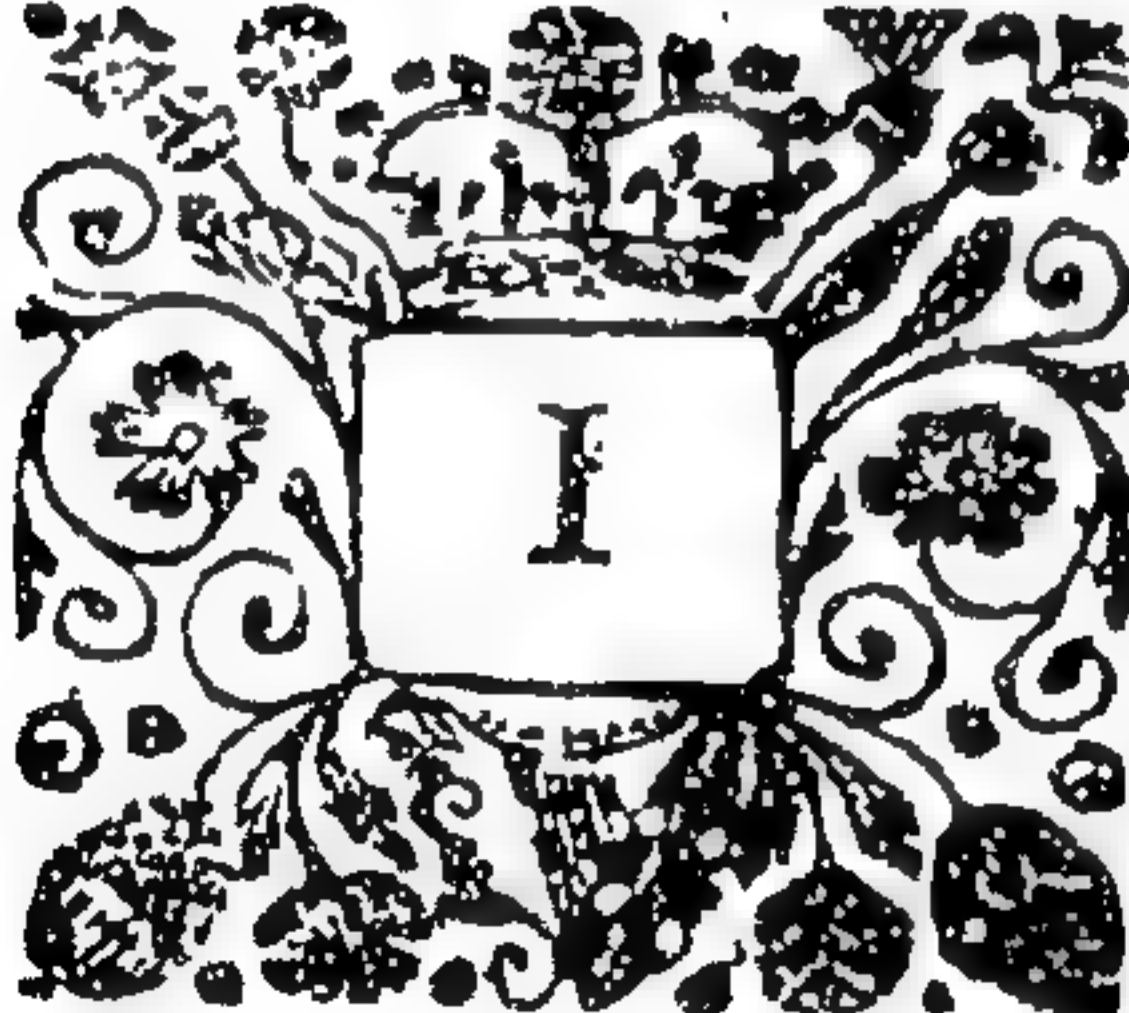
If I should still be so unhappy as to be blamed for recommending Vineyards, and giving Rules for the Management of them, having none of my own, and being under an Impossibility of having any; to such I only say, That my Observations are by no means confined to my own Garden, Soil, and Situation. I experience the Worst; and I can see the Best Abroad. Nay, I bless God; I can see with Pleasure and without Envy, what others do or may enjoy, and what I my self want.

To trouble then the Reader here no further, I will only add; that if All or Any of those Directions, which I have laid before the World in the plainest and most familiar Manner, shall in any Degree tend to bring in that Interest of Pleasure and Profit to others, which I have so long in some Degree experienced my self, it will greatly add to my private Satisfaction, and to the Pleasure I enjoy in my own Retirement.



THE FRUIT-GARDEN KALENDAR.

The Introduction.

T is on all Hands granted, and with great Reason agreed on, that good Laws are necessary and essential to the Being of good Government: But I think it may also with as great Reason be added, that without *O Economy* and *Order* in the Execution of those Laws, the greatest Beauty of Government is lost. For if the Law is not executed, it is only a dead Letter, *Useless*, and *Insignificant*: Or if it be executed, yet if it be done without regard to *Time* and *Place*, and *Circumstances*, it will frequently lose its Force and its End, introducing of Consequence, Anarchy, and Disorder.

These Observations hold equally true in all Governments and Societies; whether Little or Great, Publick or Private : And I add here too in the *Vegetable*, as well as *Animal* Kingdom. For the Lord or Governor over any Part of Vegetable Nature, is not less in Danger of losing the Beauty and Benefit of his Government, from the Want of a reasonable Execution of good Laws, than a Sovereign Prince is, of being deprived of the Blessing of Prosperity, and the Hearts of his Subjects, from Partiality or Injustice.

It is, I confess, therefore with a View of restoring and establishing a true and exact *Order* and *Oeconomy* in a Garden, that I have been prevailed upon to add this *Kalendar* to the Two other Treatises I have published on this Subject.

I have indeed *therein* already consulted, and had a due Regard to the *Order of Nature*, resolving to make every Thing plain and intelligible, even to young Beginners, by a *natural* Method of Proceeding : But yet what is still desired and wanted to make the Art of Gardening truly pleasant, familiar, and entertaining, is *the Order of Time* too : To be *led*, as it were, by the Hand ; to be directed and pointed to something to be done, not only each successive *Year*, but if possible *every Day*, at least every *Month* in the Year, towards forwarding the natural Hopes of being rewarded with Fruit and Plenty.

Such a Sort of *Manuduction* as this must needs be very desirable and easy to the Mind ; and every true Lover of a Garden should methinks entertain such a *Guide* with Kindness and Candor ; especially whilst nothing is offered to him *choaking* or *unnatural* ; but all the Rules of Art, though confirmed

firmed by long Experience, are submitted to the common Reason and Judgment of Mankind, and every Man is left to the first Principle of human Nature, of *judging for himself*.

What the mercenary Part of the Gardeners may think of this Method of treating the Subject, I cannot say. There are certainly some such *narrow* envious Spirits in the World, that would engross and monopolize all Knowledge ; that would make others believe, that the *particular Mystery* is unintelligible ; or at least not fit to be trusted with any but themselves. Where Tyranny and Ignorance prevail, this sort of *Craft* may easily be supposed to prevail also : But amongst us Protestants, where Learning and true Liberty prevail, it we can but keep where we are, no Subtilties or *Crafts* will be endured, that hinder the Progress of useful Learning, as well as true Religion.

I hope therefore it will not be made an Objection, that I have all along endeavoured to make this Science *plain* and *easy*, and consequently *intelligible* ; because the better it is understood, with so much the greater Success it will be practised, and the more improved ; it being my constant Desire and Aim, that no one Person amongst *Clergy* and *Lairy*, in whatsoever Part of this Island, may ever be deprived of the *Pleasure* or the *Profit* of a Fruitful Garden, for want of Rules and Instructions, or of knowing *Times* and *Seasons* when to put them in Practice. Or if I could but be so happy, as only to give some Hints, whereby further Improvements might be made, by the Experience and Ingenuity of others, I shall gain the Pleasure and End I aim at.

There are some Terms and Expressions yet remaining in our Language, with respect to Arts and Sciences, that have a very odd Sound, though perhaps no ill Meaning: As when we are told of a Company of the *Mystery* of Haberdashers or Merchant-Tailors, and Wardens of the *Mystery* of Met-cers, &c. I confess, if the Company of Gardeners should ever incorporate themselves into a Fraternity, I should be very sorry to hear them called, *A Society of the Mystery of Gardening*: Because, however weak Minds may be brought to reverence what they do not understand, yet I cannot find that wise Men like any Thing the better for being *made* mysterious or unintelligible; but rather the contrary; and are jealous of every Thing that looks like *Art*, in *hiding* what *ought to be* known or explained. Howsoever, as far as in me lieth, I have endeavoured to shew that the Art of *Gardening* is no *Mystery*, no inaccessible *Arcanum*; but attainable by a few easy Rules, and a little Experience.

The Study of *Vegetable Nature* has indeed hitherto been too much neglected: But as the most ingenious Mr. *Bradley* has now opened a new Scene of Philosophy in the Generation of Plants, it is to be hoped *that* Attempt will provoke other curious Observers to join with him in making further Experiments, and tracing the Operations of Nature distinctly through its several Stages, from the *Conception* to the *Birth*.

When that *Hypothesis* is once fully settled, as it is now a highly probable one, we shall have a noble Foundation to build practical Truths upon; and it is easy to guess what surprizing and useful Inferences may be drawn from such a new Theory of *Vegetable Nature*.

In the mean time, taking the Circulation of the Sap for a Thing granted, and built upon *good Reason*, as well as undeniable Experiments (*a*), I shall continue to proceed upon that *Hypothesis*, and with a constant View to *That*, shall venture to recommend those Rules and Directions to others, which have proved for many Years so successful to my self, under no very advantageous Circumstances of Soil and Situation.

This Subject, as I have observed above, I have already treated in *the Order of Nature*; and in that Treatise, I have study'd to use as few Words, as possible, and yet to express my self *intelligibly*. But if a further Enlargement should seem necessary to *some*; I hope I have here supply'd that Defect, now I come to speak in *the Order of Time*, which will lead me to say many Things before unthought of, and to insert some others not before sufficiently experienced.

(*a*) Besides the Experiment of the Circulation of the Sap in the strip'd Jessamine, mentioned in the 1st and 2d Part, I have since try'd to make an Incision in a strong Branch of a Pear-Tree, as far as the Pith, and afterwards split it Four or Five Inches upward, putting a small Stone in the Opening to continue the Gap. This succeeded as I expected; for at the Extremity of the Lip, where it was disjoined from the lower Part of the Branch, Nature formed a weak bearing Branch; which could not otherwise be, but by means of the descending Sap, as may be seen in *Fig. 1.* at *A.* The same also is proved by *circumcising* the Branch of a Pear, taking away three or four Inches of the Bark all round to the Wood: The Effect whereof is, That the descending Sap swells very much the upper Part of the Wound at *B* in the same Figure; and is (I think) a Demonstration, that the Sap in a Pear, (and as far as I have observed in *that* alone) ascends in great Measure through the Pith. For such a Branch will live and bear Fruit several Years.

However, what I have chiefly had Regard to in my further Explications and more particular Rules, is the Management of the V I N E, that *glorious* Plant, which amongst all others, justly claims the *Precedency*, being esteem'd both by Ancients and Moderns, the King of the *Vegetable* Kingdom, as Man is of the *Animal*, and Gold of the *Mineral*. And that *Honour* and *Precedency* is the more aptly given to it as a King, if we consider how analogous *Plants* are to *Animals*, according to the new system of the Circulation of Juices in Vegetables ; and more so still, if their Method of *Generation* given us by the afore-mentioned Curious Gentleman, be admitted.

This *Royal Plant*, I say, I shall all along treat according to its true Dignity and Worth, studying to explain and unfold its Nature, and laying down such particular Rules and Directions, that *All* may understand its Motions, and *None* be deprived of the Blessings and Rewards which it offers to all its Lovers and Admirers.

There is the greater Need of having something of this Nature said and done ; because there is a strange prevailing Notion got abroad, as if the greatest End and Use of planting a Vine, being a quick Grower, was to cover the Walls of the House with something Green, to make it look Pleasant and Beautiful to the Eye, without any great Prospect of reaping good or ripe Grapes from it. And indeed, according to the Observations that I have made, it is generally managed accordingly, with great Disregard to any exact Pruning, or good Government.

This careless Management of the Vine, is yet but agreeable to the Views Men have in other Cases, whose Labour and Resolutions *ordinarily* rise no higher

higher than the Level of that Good, which is desired and hoped for. If the Expectations of Fruit from the Vine be languid and faint, who can hope that the Four several Prunings will be duly warch'd and regarded? And yet I am very well satisfied, that the general received Opinion is, that 'tis a vain Thing to expect good *Grapes*, when once you get Fifty or Sixty Miles *North* of *London* (a); or if any one happen to succeed, *That* is commonly attributed to such kind and favourable Seasons, as are not *ordinarily* to be expected.

Now therefore, that I may at once strike off the main Force of this Objection, and raise Mens Hopes and Expectations upon a Rational Foundation in order to Practice, I shall here subjoin an exact Calculation of the several Degrees of the Sun's Heat, answerable to the several Degrees of Latitude, between 44° and 56° ; whereby at one View it may easily be discerned, what Proportion of Heat is lost or got by going *Northward* or *Southward*.

But because I am obliged to my Good and Learned Friend Mr. *Whiston*, for his kind Letter and Tables upon this Occasion, I shall make use of his Leave to insert them at Length.

(a) To this Error and Mistake Sir *William Temple*, I doubt, has not a little contributed; when he so weakly argues and insinuates, as if neither good Peaches nor Grapes could reasonably be expected, when once you get beyond *Northamptonshire*, and commends the Prudence of his Friend in *Staffordshire*, that planted only the best Plums against his *South Walls*. Where yet (as I am informed) there is excellent Fruit of all the best Sorts. See *Garden of Epicurus*, Page 116.

Dear Sir,

“ I Have considered the Problem you desired the
 “ Solution of from me, and have perused the
 “ Learned Dr. *Halley's* Account of the same in the
 “ *Philosophical Transactions*, *Numb.* 203. And
 “ the Result of my Enquiry is this : That the
 “ Quantity of Heat derived from the Sun is *always*
 “ as the Squares of the Sines of the Sun's Altitude
 “ above the Horizon, *i. e.* that the Quantity or
 “ Number of its Rays is still as the Sines of that
 “ Altitude ; and the Particular Force of each Ray,
 “ or equal Quantity of Rays (which when more
 “ oblique are weaker, and more Perpendicular are
 “ stronger) is in the same Proportion of the Sines
 “ also : Which equal Proportions, when compound-
 “ ed, do constitute the Proportion of the Squares
 “ of those Sines. Upon which Foot I have set
 “ down Tables of the Quantity of Heat derived
 “ from the Sun at Noon on the longest Day, *June*
 “ 10. At the Sun's Entrance into *Taurus* and *Virgo*,
 “ *April* 10. and *August* 12. And on the *Equinox-*
 “ *Days*, *March* 10. and *September* 12. for the se-
 “ veral Latitudes from Forty Four to Fifty Six ; or
 “ from the Latitude of *Montpelier* in the *South* of
 “ *France*, to that of *Edinburgh* in *Scotland* ; which
 “ will be sufficient for an Estimate of the *Summer*
 “ Quantity of this Heat in general for the same La-
 “ titudes, or so far as the ripening of *Summer* Fruits
 “ is concerned : And it will abundantly prove what
 “ you aim at ; *viz.* That 'tis not the proper Weak-
 “ ness of the Sun's Heat, that hinders those Fruits
 “ from ripening tolerably well in the *Middle*, or
 “ even somewhat *Northern* Parts of *England*, which
 “ are known to come to considerable Perfection in
 “ the

“ the *Southern* Parts of it : Since it is evident by
 “ these Tables, that the Difference of an entire De-
 “ gree in these Parts, is but about the Fifty Sixth
 “ Part of the whole Solstitial Heat in *June* ; but
 “ about the Thirty Fifth Part of the other in *April*
 “ and *August* ; and no more than the Twenty Third
 “ Part, even in *March* and *September*, when it
 “ is largest : Which seems to be too small to be of
 “ very great Consequence in that Matter. The o-
 “ ther Occasions of Variety of Heat in several Coun-
 “ tries, are generally obvious, and do not come un-
 “ der our present Consideration. I am, Sir, a hear-
 “ ty Well-wisher to your useful Designs of impro-
 “ ving and recommending the Art of *Gardening* ;
 “ and withal,

Your affectionate Friend and Brother,

Cross-street, Hatton-Gar-
den, Dec. 14. 1717.

WILL. WHISTON.

N. B. The following Tables and Calculation, though they shew the real Difference of the Sun's *Meridian* Heat in different Latitudes, yet do not account for the greater Number of Hours of the Sun being above the Horizon, which a *Northern* Latitude has more than a *Southern* one ; which yet is to my present Purpose to observe. I shall only therefore inform the Reader in General, and by one round Number, That during all the *Summer* Season (the Time of ripening Fruits) betwixt the Two *Equinoxes*, there are no less than One Hundred Hours of Sunshine at *Durham*, more than there are at *Plimouth*, as might easily be shewn by a particular Table,

Tables of the Quantity of the Sun's Heat at Noon, when it is Vertical ; at the Summer Solstice ; the Two Equinoxes ; and the Sun's Entrance into *Taurus* and *Virgo*, for the several Latitudes from 44° to 56° . N. B. The Angles are made by adding the Sun's Declination to the Elevation of the Equator.

Degrees of Latitude.	Places Names.	Heat, June 10.	Heat, Apr 10. and Aug. 12.	Heat, Mar. 10. and Sep. 12.
Vertical Sun.	-----	1000	1000	1000
44	Montpelier.	880	711	516
45	-----	867	696	500
46	Lyons.	854	680	484
47	-----	841	664	466
48	Orleance.	828	647	449
49	Paris.	814	631	431
50	The Lizard.	800	614	413
51	-----	785	606	396
$51\frac{1}{2}$	London.	777	597	388
52	-----	770	579	379
$52\frac{1}{2}$	Yelvertoft.	757	574	375
53	-----	757	561	362
$53\frac{1}{2}$	Lincoln.	753	555	357
54	-----	742	543	346
55	Newcastle.	726	524	329
56	Edinburgh.	711	506	312

By

By these Tables it manifestly appears, that tho' Two or Three Degrees of Latitude do produce *some*, and that a *Mathematical* Difference in the Degrees of Heat and Cold ; yet that *that* Difference is but small, much less considerable than is commonly thought, and consequently that there is more Weight laid upon that Difference than it will bear, when a Gentleman suffers himself to be discouraged from Planting and Managing Peaches and Vines ; because he happens to live under Fifty Three or Fifty Four Degrees of Latitude.

For my Part, I am so sensible how little there is in that Disadvantage, that if the Rules I have laid down for managing a Vine be but followed, I am sanguine enough to hope for Success, even in the most *Northern* Parts of this Kingdom ; and I own it is with Pleasure, that I expect to hear of good Grapes at *York* and *Durham* too.

N. B. In this Calculation no Notice is taken of the Advantages and Disadvantages of *good* and *bad* Soils, of *kind* and *unkind* Climates and Situations ; because, though these are in themselves of the last Consequence, and are indeed chiefly to be regarded ; yet do not they come under the foregoing Disquisition ; but are to be considered *separately* and *apart* : Inasmuch as a bad Soil and Situation may fall to the Share of him who lives near *Canterbury*, and a good one to him that lives near *York*.

The former Calculation therefore is supposed to be made under the same or equal Circumstances of Soil and Climate. But then what I would add here is this : That we unjustly complain of a *Northern* Climate, when the chief Misfortune (to say nothing here of bad Pruning) is owing to a bad Soil and Situation, to cold Springs and Clays, sub-
ject

ject to Currents of Winds betwixt Ridges of Hills, open to the *North, East, or West.*

That these are the Evils chiefly to be dreaded and guarded against, it possible, may appear from the want of *good and late* Fruit in *Cornwal*, and some Parts of *Devonshire*, open to the cold Winds; and the Plenty of it to be had in *Worcestershire* and *Herefordshire*, Two Degrees more *North*. Though indeed it is a Reproach to those Two last named Counties, the very Garden of *England*, that they do not more encourage Vineyards, and the later Fruits; not seeming to know the Felicity they enjoy of the *best* Soil and Climate, and of their being so happily guarded on all dangerous Sides by Hills, and yet open to the *South*.

This however is to my present Purpose to observe, that though there is some small *Disadvantage* attends every Degree of more *Northern Latitude*; yet even Three or Four of those Degrees are by no means so considerable a Discouragement (nor ought to be accounted so) as a wet Soil, a cold Clay, and a bad Climate, wheresoever they happen: I shall therefore venture to say, because I am supported by experimental Knowledge in saying it; That a warm Sand or Gravel on a favourable Situation, as far *North* as *Nottingham* or *York*, is much rather to be chosen, because more agreeable and assisting to late Fruits, than a deep Clay ungarded from the *North* Winds, as far *South* as *Exeter* or *Plimouth*.

For indeed there is a greater *Disadvantage* attends a wet cold Soil than most are aware of; because the very Climate in some Cases is affected from the Nature of the Soil, as I have my self had but too fatal Experience; the hovering cold Dews and Frosts *here* coming on sooner in *Autumn*, and continuing

tinuing later in the *Spring* ; whereby I have not only been deprived of at least a Month of that Summer, which most of my Neighbours have enjoyed ; but have often lost the tender Shoots and Fruit of Vines and Figs in the *Spring*, and *much* of their Fruit in *Autumn*.

N. B. The aforegoing Calculation doth not respect any extraordinary Cases of Artificial Fires, or other Helps to accelerate the Growth of Nature : For these may be had in any Latitude, with Care and Charge, and are to be sure, most wanted in the *North*, and in bad Soils, to ripen the later Fruits.

I have been informed, that his Grace the Duke of Rutland, at his Seat at *Belvoir Castle* in *Lincolnshire*, has done so much Justice to the Vine, as to have these *Artificial* Fires constantly burning behind his slope Walls from *Lady-Day* to *Michaelmas* ; whereby he is rewarded with the largest Grapes, and even the *best Frontignacs* in *July*.

I have not myself seen them ; but it is easy to conceive, that by the Help of Stoves at convenient Distances, and Cavities in the Structure of the Wall to convey the Heat to all Parts, the desirable Purpose of *early, large, and good* Grapes must be attained ; especially if the constant Care of Matting them at Nights be not neglected ; without which all would quickly be spoiled by the Cold and *Perpendicular* Dews or Frosts, that fall so frequently in *April* and *May*.

Neither is the Charge of this, as I am informed, so considerable as might be thought ; for in a Country of Coals, where a Wagon-Load of the small Sort may be had and brought for Two or Three Shillings, it cannot be supposed to be a great Charge to have Ten or Twelve Stoves constantly burning
for

for Six Months. The most material Thing seems to be the Attendance required : And yet *that* need be look'd upon as only part of the *Meloniere*, and may be managed by the same Hand, and at the same Times.

Something analogous to this, is a Method that might be practis'd ; of laying large Heaps of long Dung behind a Wall of Vines, which by frequent stirring and repeating, will have the same Effect as a gentle Fire ; and if it might be so contrived, as to have the Garden-Wall where the Vines grow, near the Stable, the Trouble would be little or nothing, but the Advantage every way very considerable ; still remembering, that if the Vines by any artificial Heat, shoot out before their natural Time, great Care must be used to guard them a' Nights from the Frosts, till *April* and some part of *May* be over.

But what Methods soever are practis'd for accelerating the Growth of Vines by *artificial* Heats, it may not be improper to add in this Place ; that it is of the last Consequence to follow exactly the Rules of Art in *pruning* them : Forasmuch as great *Care, Attendance, and Charge* is used for the attaining the End of getting *good and early* Grapes, the more of *these* are procured in a small Compass the better ; and therefore it would be inexcusable to have any Part of such Walls as *these especially*, unfurnished with Fruit ; which yet, I doubt, is a Thing not sufficiently considered by those, who are willing to spare no Cost to get good Grapes : Whilst they seem satisfied with having a tolerable Quantity on each Vine ; when yet, it may be, the same Quantity of good Ones might be had in half the Room.

Which

Which leads me here by the way to remark also, That I could never yet find, that the Vine can *ordinarily* bear (a) too much Fruit, its great Plenty of Sap affording always sufficient Nourishment for the greatest Abundance ; especially if all the fruitless Branches be removed, as they ought, and as will be directed in its proper Place.

N. B. If all the afore-going Advantages of Soil, Situation, and Climate, were well considered and improved, I do not see but it must turn to very good Account to plant a convenient well-sheltered Spot of Ground, to be ordered in the Method of a Vineyard for making Wine ; the Fruit whereof by the help of a very small Quantity of new Raisons, might certainly be made to answer to very good Purpose.

I cannot tell but the *South-Side* of a chalky Hill may do : But I should rather chuse an untry'd hot Sand or Gravel not over-rich, for this Reason ; because *this* will retain the Heat of the Sun much longer, even so as to continue warm in the Absence of the Sun ; and consequently the *circumambient* Air will be in a great Measure affected therewith.

I am satisfied there is more in what I now say than is commonly thought ; because I have frequently observed the happy Consequences of a warm Gravel or Sand, how that it hath really defended what has grown upon it from the Injury of those Frosts, which have made terrible Havock in other Neighbouring Places. The great Misfortune which

(a) But this Observation is to be restrained to the Vine only : All other Fruits (as far as I have observed) do really suffer as to their Taste and Goodness, from too great Plenty.

we in this Island suffer, with Respect to our late Fruits, is the *Unconstancy of the Weather*, and *great Difference* oftentimes betwixt our *Nights* and *Days*, as to *Heat* and *Cold*; for we do not seem so much to want *hotter Days*, as *less cold Nights*: But it is plain from *Fact* and *Experience*, that those *Inequalities* are not near so great and considerable in a *dry warm* Soil, as they are in a *cold wet* one. And yet (as I apprehend) no better Reason can be assigned for it, than that the one retains the Effect of the Heat of the Day, and the Sun's Beams *longer*, and consequently makes the whole Air *warmer* in the Absence of the Sun, than the other.

To the happy Influence of this it must be assigned also as the Cause, why those perpendicular Frosts or Mists, which fall so frequently in *Spring* and *Autumn*, do not *here* fall so plentifully, nor cause such fatal Destruction: *Such* indeed as must in *other* Places be carefully guarded against with *Horizontal Shelters*, if tender or late Fruit be expected.

However, still we shall but deceive our selves, if we trust too much to the happy Influence of a good Soil: I am now only speaking of what is *comparatively Good*; of what is to be chosen with all the Skill and Discretion imaginable, in the Case of planting a Vineyard especially. But were it any way practicable, nothing could more effectually bring *Italy* into *England*, than a Contrivance to take off more of the Influence of our cold Nights and uncertain Weather. This I am perswaded might, in good Measure, be done with no great Charge or Trouble, by means of low ordinary Espaliers about Two Foot high, along the several Rows of Vines, to which their Shoots might be carried *Horizontally* and fastened, and the Fruit it self likewise defended by *Horizon-*

tal Shelters, fix'd on the Top of the Espaliers, made of coarse narrow Planks, with a convex Superficies to throw off the Wet ; as may be seen more plainly, *Fig. 2. (a)*.

I cannot but think some such Method as this might be of singular Use to remedy the Inequalities of our Climate, and help us to such *fruitful Vineyards*, as may afford the same good Wine, which we so *eagerly* seek for Abroad with greater Charge.

I am thoroughly convinced how easily good and ripe Grapes may be had in a Vineyard *artfully* chosen and well guarded, from what I saw the last Year, (and that no very favourable one) in the Garden of that Ingenious Encourager of Vegetable Nature, Mr. *Balle* at *Kensington*, who for a Trial has planted a little Spot with Vines in his Garden ; Three or Four Shoots from every Plant were supported with Props : And when I was there in the beginning of *November*, I saw some very fair Bunches of the blue *Frontinac* tolerably ripe, managed according to Art, by Mr. *Bradley* himself. Some of *these* indeed he told me were planted there by Mistake : But I only infer from thence, what excellent Fruit must be had, and may ordinarily be expected, from the black Clusters and Muscadines, that are so much earlier ripe.

Upon the whole then, since I have so *heartily* recommended the planting Vines in all advantageous Soils and Situations, and have encouraged even the making Vineyards in *some* of the best and most

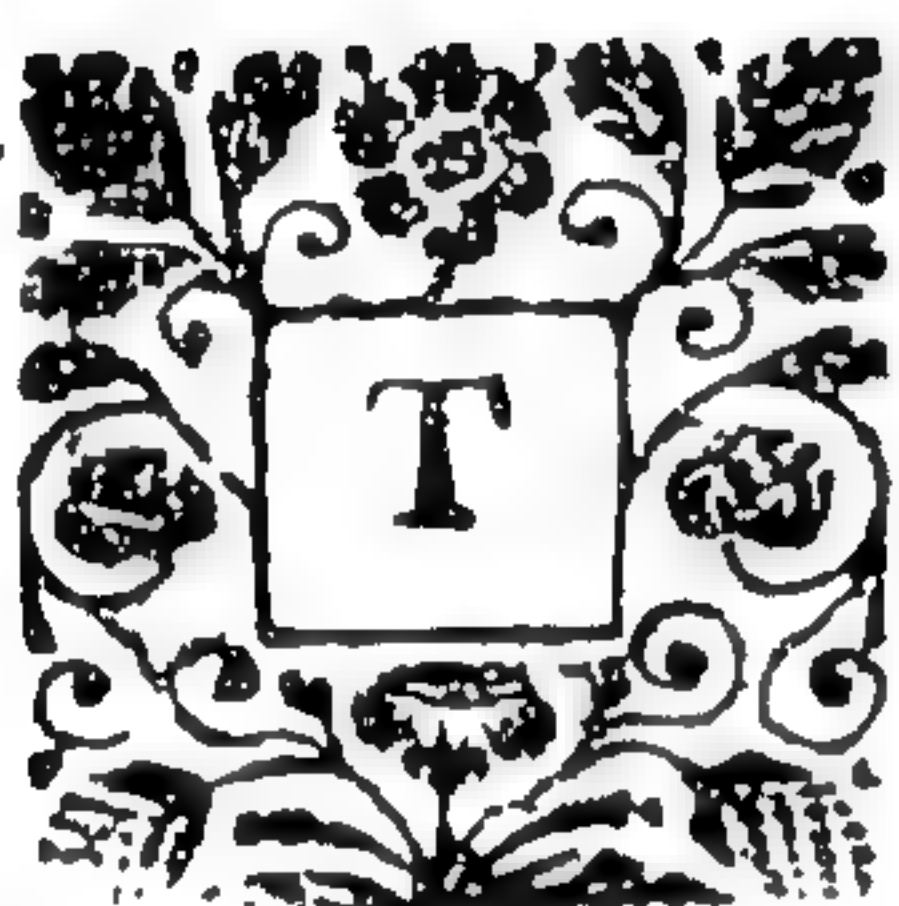
(a) But a cheaper way still, and as effectual, would be to fasten narrow Mats of Straw or Rushes Four or Five Inches wide on the Top of the Espalier, running East and West.

Southern Parts, I shall think my self obliged to be more than ordinary Particular in my Directions how to manage them ; not only, because *they* most of all *expect* and *need* constant Pruning ; but because I cannot find, that *that* Care and Attendance is *ordinarily* given them, which is so absolutely necessary to the Production of *good* and *ripe* Grapes. But neither shall I forget what I have promised : To lay down such plain Directions and Rules for the Government of a Fruit-Garden in all the Articles of it, that the practical Part of Gardening may become as *easy* and *familiar* as the Theory is Delightful and Entertaining to all.

DIRECTIONS

For the MONTH of

JANUARY.

N. B.  O prevent Mistakes, and to make it appear what Advice I prefer in the Annual Hortulary Government, I shall all along suppose the Gentleman or Clergyman himself to be the chief Director, Manager, and even Operator in this Article, wherein I am now concerned, which relates, properly speaking, to the Fruit-Garden, or Management of Fruit-Trees, as to their *Planting, Pruning, Sheltering, &c.* and that he leave the other Article of the Kitchen Garden, (which I have very little to say to here) to be taken care of, and ordered by more mechanical Heads and Hands.

This Month of *January* then being the Time when the greatest and most severe Frosts may be expected, such as make the greatest Hivock amongst the tenderer Plants, and set vegetable Nature, as it were, at Rest and Quiet, there is little else to be done in a Fruit-Garden, but, when Health and Weather will permit, to continue the Pruning of those Vines, which have been neglected the two preceding Months; to which the Reader is referred for particular Directions,

Now is the Time also, before the Hurry of the Spring comes on, to continue and compleat the pruning of Pears ; both those against a Wall, as well as Dwarfs ; in which Work there is no small Care and Skill required. For a Wall-Pear is very apt to be *ungovernable*, and to run into Wood, especially in the Middle ; for which Reason the Branches must be extended Side-ways or *Horizontally*, as much as possible, and none but small Branches suffered to grow *there* ; to be sure none are to be suffered to go directly upward or *perpendicularly*, because *such* will quickly be *great Wood*.

It is common to let the Branches of a Pear, especially the best Winter Pears, to *project* too far ; by which means the Advantage of the Wall is in a great Measure lost : The Fruit-bearing Branches ought not to come forward above Four Inches ; and what others soever project further, ought to be cut to half an Inch of the great Wood ; and not *too many* Knots to be left neither, to prevent Confusion.

As to dwarf Pears, I am of the ingenious Mr. *Bradley's* Opinion, That to bring them into too small a Compass, is to make them *over-confined* and unnatural : Such I call that modish Figure, which pleases some, of a Cart-wheel laid Horizontally, with its Concavity upward. But, as far as I could ever find, that *laboured* Posture will not *answer* in producing any great Quantity of Fruit ; especially of the best and more difficult Sorts. I should therefore prefer what is properly called the Half Dwarfs, whose Figure and larger extent of Branches give leave and room to Nature to exert it self and become prolifick. And if any one shall urge and alledge the greater Beauty of the low Dwarfs ; the easiest and best Answer to that is, That I always take every Thing then to be the most beauti-

beautiful, when it most answers the End for which it was made : Which I suppose also to be a sufficient Answer to those, who lay too great Strefs upon the *Form* and *Figure*, and complain when they sometimes see a Fruitful Branch to cross another to prevent Barrenness.

These Dwarfs then being suffer'd to grow to Seven or Eight foot high, ought to be carefully thinned of all unnecessary fruitless Branches, and kept free and open in the middle.

What I have here said about Pears respects also the Plum and Cherry, which should be pruned *this*, or at furthest the *next* Month; though a Cherry doth not so much delight in a Knife.

N B. The more vigorous and luxuriant a Pear or Plum-Tree is, the *later* it is pruned the better : And it is not too late to do it in such Case, even after it hath begun to shoot. But because in *March* a Gardener's Work increases upon his Hands, I would chuse to take away some of the Roots, such as can most easily be come at, *this Month*, or else correct the great Branches by *Incision* (*a*) in *March* or *April*.

Now is the Time, after a Shower, to cleanse Fruit-Trees of Moss, their great Enemy ; which may be done with the Back of a Knife, or with a Hair-Cloth. Now gather Cyons from Pears and Plums, for grafting the next Month ; for they will take the better, being kept some Time from the Tree.

This is not a Month one would desire to make a Plantation in ; but if the Weather be open, any Trees that are wanted may very safely be removed,

(*a*) See *Gentleman's Recreation*, pag. 50.





and the Vacancies filled up. Now is a proper Time to lay in a good Stock of *untry'd Earth*, from some rich Waltes and Meadows, to serve future Purposes, either in the Mellon-Ground or Fruit-Garden, for making the Borders good, where Dung should not be suffered ; or to plant Strawberries in the next Month.

Decay'd or dead Branches are to be cut out, and too much Confusion of others are to be avoided, especially in the Middle of the Trees. Pears, Apples, and Plums on Espaliers are this Month, if possible, to be pruned as Dwarfs, and their due Height adjusted in Proportion (*b*) to their Distance from the Fruit-Wall, where I suppose them to be planted by way of Defence or Shelter, as may be seen more particularly in the Article for *February*.

The Coldness of this Month, and the Severity of the Season of the Year hinders not, but that we are rewarded now with some of the late good Sorts of Pears from the *South Walls* : Such as the La Châfsee, Ambret, St. Germain, and the Colmar ; which last is most excellent, if it will be perswaded to keep so long. I mention not the Winter Bon Crétien ; because, except in an extraordinary Year, and as extraordinary Soil, it is worth little any other way but to *bake* here in *England*. And I need not say how unadvisable it is to bestow a *South-Wall* on a *baking* Pear : when a Cadiliac, a black Pear of *Worcester*, a Warden, and a Pound Pear, will answer that Purpose altogether as well on a *North-East* or *North-West* Wall. Carefully roll Gravel-Walks after Frost, and after Rain, which will effectually kill the Moss.

(*b*) See Month of *February*.

F E B R U A R Y.

 IN this Month we may continue most of
 the same Works we were doing in the
 last. But *later* than this Month, the
 Vine must by no Means feel the Knife ;
 for *that* would be taken very *unkindly*,
 and the *Resentment* expressed by an immoderate
 Bleeding and Expense of Sap, to the great Hazard
 and weakening of its *Constitution*. Let the *last*
kind Hand therefore for Winter-Pruning be put to
 the *Vine* the very Beginning of this Month, if
 possible. After which, take the largest and best
 Shoots of the last Years Growth, now already cut
 off, putting them Slopewise into the Ground about
 Ten Inches deep, leaving only one Bud above
 Ground : These, if they are put into light Earth,
 and a sheltered Place, will most of them grow,
 and in Two Years Time be fit to remove, either in-
 to the Vineyard, or to fill up other Vacancies.

This is a proper Season (*October* having been
 slipt) to plant Vines, and indeed all other Sorts of
 Fruit-Trees, either Dwarfs or Standards : For it
 would be altogether wrong to lose a whole Years
 Growth in waiting till the next *October*. However
 to prevent Repetition, the Reader is to take Notice,
 that the Method of Planting, and the best ways
 of making Borders, &c. are to be found under the
 Head of that Month.

Now is the Time to make use of those Cyons
 cut off from the Trees the last Month ; for the latter
 End of *this* is most proper to graft *Pears* and *Plums*
 of.

of all Sorts : And *that*, without having any Regard to the *common*, but *weak* and *groundless* Superstition of the Age of the Moon, derived originally from *Heathens**, and transmitted to us through the dark and ignorant Ages of Popery, and so not yet rooted out of the Minds of the Vulgar. Though it is surprizing so great a Man as Mr. Evelyn, should all along in his Writings discover his Attachment to an Opinion, that led him to say so weak a Thing about Grafting ; *That new Moon and old Wood is best*. The Grafting Apples must be deferred longer. This is also a Month of great Business with a true Lover of Fruit, when he is to Exercise his Knife, his Skill, and his Patience, in correcting the great Disorders of his Apricot and Peach-Trees, first untacking them from the Wall, and then freeing them of all their dead Wood, and short'ning both Wood and Fruit-Branched, according to the Rules of Art : Still remembering that the true Beauty of a Tree consists in having its Branches laid, as much as possible, *horizontally*, and the middle of the Tree free from great Wood, and perpendicular Shoots.

However, because there *has* lain, and *may* hereafter lie an Objection against this general Practice, I shall here insert that *Part* of a Letter from a Friend, wherein that Objection was started ; and my Answer to it ; that the Reader may thoroughly understand this Rule of Art, and the Reason whereon it is founded.

Reverend Sir,

“ **W**alking with a Friend t'other Day in his
“ Garden, I cast my Eye upon a Nectar-

* See both *Hesiod* and *Virgil*.

“ rine, which I observed to be exceeding full of
 “ young Fruit, its Branches carried *perpendicularly*,
 “ tho’ naked at the bottom ; from whence I con-
 “ cluded your Argument does not hold *negatively*
 “ against *All Trees*, whose Branches run *perpendi-*
 “ *cularly*. From whence also I observe further,
 “ that a Tree may be in such a Condition, as not
 “ to want *any* Check ; and therefore the Check
 “ which will be necessarily given, by laying the
 “ Branches *horizontally* may be *too much*, and be
 “ an Occasion of *Barrenness* in that Tree. This I
 “ submit to your Consideration.

I am Yours, &c.

The Answer.

Sir,
 “ **T**HE Objection you are pleased to make to
 “ my general Rule of checking the Sap,
 “ in order to get bearing Branches, is very ingeni-
 “ ous, and *seems* to call for Exceptions. For which
 “ Reason, I always suppose a Discretional Power
 “ lodg’d in a Pruner, to consider well the Weakness
 “ or Vigor of a Tree to be pruned. But yet, with
 “ respect to a *Peach*, I may venture to say, that
 “ *that* Tree, which, by Reason of its Weakness, re-
 “ quires to have its Branches carried *Perpendicu-*
 “ *larly*, is not worth preserving ; but rather calls
 “ for another in its Room : Because the certain
 “ Consequence of that Practice continued, will be
 “ Barrenness in the Middle, and such Barrenness too
 “ as is incurable, and will end in Death. The Rea-
 “ son whereof is plainly this : In the perpendicular
 “ Branch of a weak Tree, the Sap indeed ascends
 “ freely and uninterruptedly ; but for that Rea-
 “ son will every Year, instead of Two or Three

“ Side-Branches, put forth only at the Extremity,
 “ and so form *long slender* Branches of Wood. But
 “ the Distemper soon becomes incurable ; because
 “ old Wood-Branches in a *Peach* are not to be
 “ shortened with any View of new Wood from the
 “ Place of Incision, as in other Trees ; and *that*
 “ occasions the Middle and Bottom to be always
 “ barren. So that when I recommend the carrying
 “ Branches of a *Peach* horizontally, 'tis not so much
 “ to procure Blossoms, (for they are easily had
 “ both in weak and vigorous Trees) as to preserve
 “ always young Wood in the middle of the Tree,
 “ and to keep it in Health and Vigor to a good Old
 “ Age.

“ In short, my Rules are Calculated for a bad
 “ Soil and Climate : But where *these* are favou-
 “ rable, you can hardly manage a Peach-Tree amiss
 “ for Fifteen or Sixteen Years. As to the Pear,
 “ Plum, and Apricot, you will easily allow my
 “ Rules to be of general Use, especially to those
 “ who desire Plenty in a *little Time*, and a *little*
 “ Room.

I am, Sir, Yours, &c.

J. L.

Be sure this Month to keep open all Drains, that
 the Water may not stand or stagnate in any part of
 the Garden, especially near the Borders where
 Fruit-Trees grow ; for *that* would be certain Death
 to them without a timely Remedy. Now Plant
 Strawberries (from the Woods, if possible) in *un-*
try'd Earth And I chuse this Time, rather than
 before Winter ; because the Frosts are apt to throw
 them out of the Ground, and leave their Roots bare,
 to the Destruction of the Plants, and Disappoint-
 ment

ment of the Gardener. Raspberries are also to be Planted this Month in some shady Place, and the dead Shoots of the last Year are all to be carefully removed from the Roots, pruning also the Tops of the new Shoots, where the Fruit is expected.

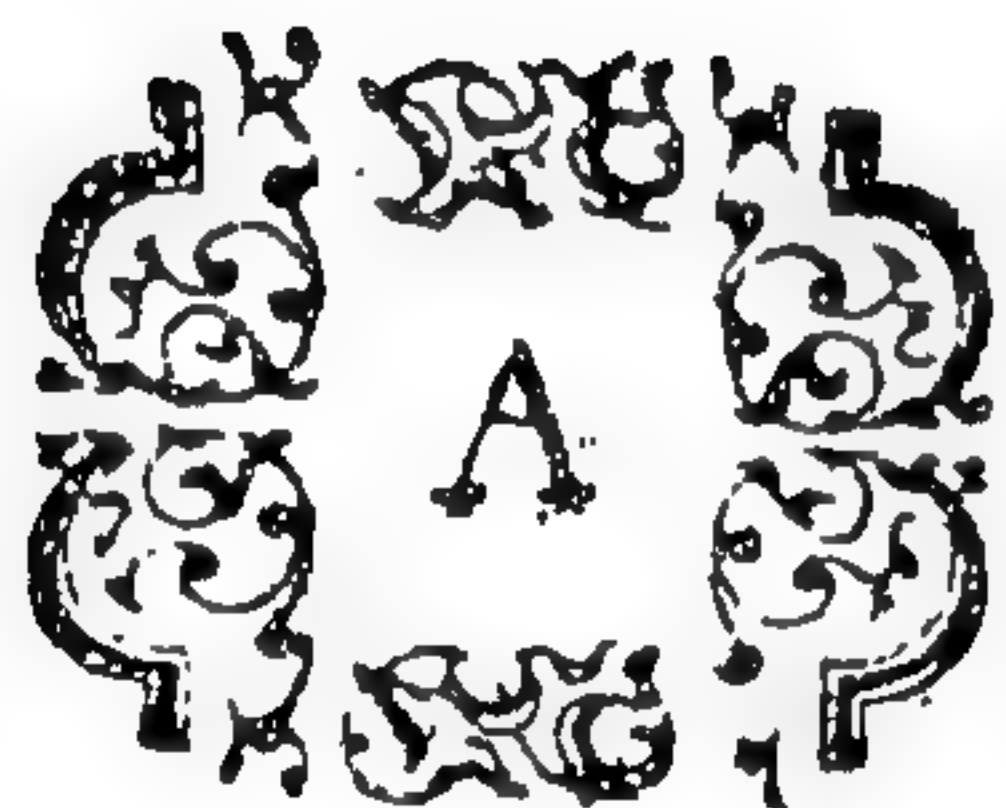
In this Month, as well as in *October*, may be planted the Espaliers of *Pears*, or *Plums*, or *Apples*, so useful as well as profitable in a Garden : For being planted at a convenient Distance from a Fruit-Wall, they are an admirable Defence for *that* against blighting Winds, and answer likewise the Expectation of the Planter, in producing noble Fruit of all such Kinds, as will bear without a Wall. The stating this Matter right is of some Consequence ; therefore I shall add that to make these Espaliers answer to best Purposes both Ways, the Proportion of their Height to their Distance from the Wall, should be as 8 to 20 : That is to say, If they are set at 20 Foot distance from the Wall, they should be suffered to grow Eight Foot high ; and so more or less *proportionably* : And yet it is by no means advisable to crowd a Wall, whose Fruit requires Air and Openness, with Espaliers too near them ; therefore the Proportion is better at some reasonable Distance, if the Ground will suffer it.

I add also here (to encourage the planting Espaliers) that they are a much better Defence against blighting Winds than tall Walls, as they do more naturally, and, as we know *experimentally*, break their Force, and cause them to lose their Power. Now is the time to sow all Sorts of Kernels for the Nursery in Soil that is not too untractable, nor too poor. Still continue to cleanse Fruit-Trees of Moss, and to roll the Gravel-Walks after Rain and Frost.

The most destructive Enemy to dwarf *Pears* and
E 2
Plums

Plums in this and the preceding Month, is one of the smallest Birds called a *Tit* or *Tit-Mouse*, which in hard Weather will make great Havock on the bearing Buds. I remember some Years since, in a very hard Winter, I lost almost all my Swans Eggs, by means of this little *Tyrant*. Shooting amongst the Branches did more harm than good ; but Bird-lime is an effectual Remedy. Their Destruction is not to be neglected ; because being such great Breeders, they will quickly multiply, so as the Mischief will be *insufferable*, especially in a Garden not over large.

M A R C H.



At the Beginning of this Month it is high Time to put an End to the Plantation of Fruit-Trees for this Year, and to fill up all remaining Vacancies ; as also to finish the Pruning of *Peaches*, *Nectarines*, and *Apricots*, that the swelling Blossoms be not rubb'd off in the Performance, if delay'd longer.

Now all such curious Persons, as would encourage the kind Efforts of vegetable Nature, will be putting some *Occasional* (a) Shelters over some of the earliest Blossoms, to secure them from the cold Frosts and perpendicular Dews.

(a) See the Benefit of these at large. *Part. II. Pag. 61.*
Pub. Edit.

*Quotque in Flore novo Pomis se fertilis Arbos
Induerat, totidem autumno matura tenebat.*

Virg. Georg. 4.

I try'd the Experiment last Year on a white Magdalen Peach, not above a Foot high, which happened to have Two or Three Blossoms on it. I placed a Piece of Glass over one of the Blossoms, about Four Inches long and Two Inches wide, and it had the desired Effect: For though the rest fell off, yet this Blossom Set, and produced me a Peach, near a third Part bigger than the ordinary Size, and earlier ripe.

I have had much the same Success from other Shelters; but I had a mind to try a Glass one, because *that* lets *some* of the Sun's Rays through it: But I suspect, whether, if any great Frosts had happened in May, the Glass would have so well secured the Fruit, as a Shelter of Tyle (*b*). I shall only add here, that the Advantage a ten'er Fruit-Tree receives from a Wall built with Horizontal Shelters is very considerable, not only in the Spring, but even in Winter, by having its tender fruit-bearing Branches defended from the extreme Colds, which are otherwise often destroyed and cut off in a severe Winter.

(*b*) From the Sight of some Brick Walls, built after my Model recommended, I find that the Gaps between the Shelters are not *ordinarily* left frequent enough for the Branches to fill all Parts of the Wall: The Fault of the Engraver of the Figure possibly led into that Mistake; which yet is easily mended by a Mallet and Chisel. The Gaps should be left between every Brick's Length at least. N. B. Some have made these Shelters of Lead, projecting Three Inches; by which means they could turn them back after May was over.

This

This is a seasonable Time to remove and plant all Winter Greens, Hollies, Yews, Philareas, &c. which add so much Beauty to a Fruit-Garden, especially in the Winter.

Now all those that are Curious and Dext'rous in grafting will begin to busy themselves among their Apples and Cherries. The first *take* best on Crab-stocks in the Cleft this Month, and the last, on the Black Cherry, which indeed is the only proper Stock. But because Inoculation is so much a more *Curious, Cleanly* and *Pleasant* Operation, I advise Gentlemen to stock their Nurseries for the most Part with Fruit *that way*, and leave what *must* be done by Grafting to more *mechanical* Hands.

The Colds being now pretty well over, towards the latter End of the Month Fig-Trees ought to be examined, and what great Wood can be spared, is to be cut entirely out close to the Stem. The thickest Shoots of the last Year *ordinarily* bear the Fruit, therefore *those* are to be *preserved*, but not *shortened*; because the Fruit is near the Extremity. I have sometimes try'd what the Success would be of putting a Drop or two of sweet Oil on the young Fruit in *May* repeated. I found that it help'd to dilate the outward Coat, and consequently made the Figs *larger* and *forwarder*.

Now the Heads of those Stocks, which were inoculated the last Summer, are to be cut off Two Inches above the Bud *Slope-wise*, beginning the Slope opposite to the Bud. And it is also to be remember'd, that such dead Wood, called by some the *Cock-Spur*, is to be cut clean off the following Year in *March*, that the Stock and Cyon may the better incorporate, and the Wound heal over. This *Cock-Spur* should now also be carefully removed with a sharp Knife from all the Branches of *Trees*, if it has not been done before.

In

In this Month I commonly chuse to make those *Gaps* and *Incisions* (*f*) on Pears and Plums, which on tree vigorous Stocks have otherwise proved so ungovernable; chiefly to be practised on the larger Wood. I make no Difficulty of carrying the Wound beyond the Pith considerably; not only to hinder the free Ascent of the Sap by the Bark, but also to hinder *any* Ascent through the Pith, which in the Case of the Pear (as I have shewn above) is demonstrable would happen. By the same Philosophy, and with the same View of checking the Sap, in order to make a Pear-Tree Prolific, I sometimes confine the Passage of the Sap to the Pith *only*, in some of the lesser and most perpendicular Branches, *viz.* by **Circumcising* them, or cutting the Bark for about Two Inches round, taking it entirely away to the Wood. These Branches will continue for several Years to bear Fruit; and when they die at last, there are always in a Pear-Tree *sufficient* Numbers of others to succeed them, especially in the Middle of the Tree; which ought to undergo the same *Discipline* too, if they are *proud* and *ungovernable*.




It is now not at all too late to cut off the Heads of new planted Trees against a Wall, and to reduce them, *with a steady Hand*, to Three or Four Buds. The Beginning of this Month also is a proper Time to prune such *Peaches, Plums, Pears, and Cherries*, as have had one Year's *Growth*; which is to be done with great Discretion and Regard to the Vigor

(*f*) See *Gentleman's Recreation*, Page 51. *Dub. Edit.* N. B. This is not to be practised on tall Standards, which would thereby be destroy'd by the Winds, but only on low Dwarfs, or Wall-Trees.

* See above. *Fig. 1.*

or Weakness of the Tree. For some are apt to leave *too many* Branches, more than the Root can well support : Others cut off *all*, to give, as they say, new Vigor. These may easily become Errors in the Two Extremes, if Judgment and Discretion do not go along with the Knife. But if the *Summer* Pruning be but managed, as directed *below*, there will not be much danger of Error.

A P R I L.

 Although vegetable Nature now begins to exert it self in Earnest in all its Operations, in the Circulation of its Juices ; in  **A**  forming Blossoms, Leaves and Branches ; yet *this* of all the other *Summer* Months, gives a true Lover of a *Fruit-Garden*, most Time to look about him, and to see what his Servants have been doing in other Parts of the *Kitchen-Garden*, *Meloniere*, &c. He has put his last Hand to the Winter-Pruning and Nailing, has disburthened his Trees of all *Exuberancies* and unprofitable Branches ; and, as the Effect of his Skill, and the Blessing of Heaven, he sees with Pleasure the Beginnings of Plenty in a full Bloom of various Colours. So that having put Nature into the exactest Order, and seen her deck'd with a rich and gay Attire, he may easily be supposed willing and pleased to leave her to her self a while, to be admired and gazed at by others, as well as himself, at a Distance ; still rememb'ring to guard her from Injuries, and keep off all such *rude* Assaults of external Violence, as are plainly the Effect of Man's Guilt, and the Punishment of his Sin.

But

But although there remains little to be done this Month to such Trees, from which Fruit is to be expected ; yet all such others, as have been new Planted, either in *Autumn* or *Spring*, ought to be kindly rememb'ed and encouraged with Water, during those parching dry Winds, which usually reign in this Month ; and should either have a Semicircular Paving of small Stones round their Roots ; or else a small heap of Weeds or Grass laid to keep them cool and moist, lest the aforesaid Winds prove *fatal* to them.

Now also watch narrowly, the Effects of Vegetation in new planted Trees against Walls, rubbing off all such young Shoots as push directly forward, leaving none but those that shoot *Sideways*, to form the Beauty of the Tree. What Apples remain to be grafted may be compleated this Month, which is the Time for Grafting betwixt the Bark and the Wood, (*g*) *freely*, and suffers them to part.

Cherry-Trees, that are not very thriving, should this Month be slit down *perpendicularly* with the Point of a Knife in their Body, and chief Branches, to prevent their being, what the Gardeners call, *Hidebound* ; the Grain of *their* Bark running *horizontally*, contrary to most other Trees. For want of this Operation, I have known Cherry-Trees continue in an unthriving State for Fifteen Years together, and after they have been thus slit, to thrive and prosper to a Wonder.

Be sure this Month to watch the new Planted *Vines*, and not suffer above one Shoot, or Two at most, to remain : For the *First*, and indeed the *only* Thing you are to aim at, is to get *large*, and consequently *bearing* Wood, as soon as may be ; which

yet is no otherwise to be done, but by taking away all the *smallest* Shoots. As far as I have observed, there is a general Failure in this Point : And therefore I am willing to add, that if all, or most of the weak Shoots, be suffered to grow on a young *Vine* every Year successively, you may wait Six, or Seven, or Eight Years without Fruit, and then only at last see *starved little* Bunches of Grapes : Whereas if the Head of the young Vine be but carefully disburthened, as aforesaid, the Root is of Consequence strengthened to *push* the bolder, and to reward the careful Pruner with *fair* Fruit, if not the *Second*, yet the *Third* Year at furthest.

N. B. It is not to be wonder'd at, if from some of the Peach-Trees of greatest Vigor, the Blossoms or young Fruit be observed this Month *generally* to fall off, especially from some of the stronger Branches ; because this is but agreeable to constant *Observation*, as well as *natural Philosophy*. The Reason whereof cannot, I think, be better and more naturally explained, than by the Simile of a Nurse *over-much* abounding with Milk, and affording it *too freely* ; by which Means the Child is frequently in danger of being *choaked*.

On this very Principle it is, that I have all along directed and advised the laying Branches of Trees *horizontally*, and keeping them free from great Wood, and *perpendicular* Shoots in the Middle, that the Sap may be carried in such due Proportion and Quantity, as is necessary not only to *form* Blossoms, but to *feed* the Fruit. As far as I can find, this Matter has not been generally well understood. But I think from the Reason above, it is demonstrable, that to the Purpose of having a sufficient Quantity of Fruit, *too much* Vigor is as undesirable as *too little*.

Be sure this Month to remove all Suckers from Fig-trees ; which they are very apt to send forth plentifully, to the great Damage and Weakening of the Tree, if not removed. Some of the *great* Wood should also be thorned, in order to fill the bottom of the Wall with new Branches.

M A Y.

It is impossible a true Lover of a *Fruit-Garden*, should be *idle* and *unactive* this Month. For *now* the Life of Vegetation exerts and displays its utmost Force ; and therefore its *Beauty* and *Plenty* would be acquired and preserved, a Gardener must be busy both with his *Eyes* and his *Hands*. Now Suckers will be pushing forward from the Stocks of Trees, which ought carefully to be removed, especially from such as are new planted. Now also *Vines* are assaulted with whole Troops of Robbers, even in the main Body, and bigger Branches. For if it has been Pruned as it ought, unprofitable fruitless Shoots will be pushing forward at innumerable Places, and *these* must be watch'd and pick'd off in their very *Buds*, if possible, the beginning of this Month, if not done before. For it is a Rule, that nothing ought to be suffered to grow upon a *Vine*, even in *Summer*, but what is *absolutely* necessary for *Wood*, *Fruit* and *Shelter*. All besides *these*, tends to Poverty and Barrenness. And yet he that knows any Thing of a *Vine*, may know, that if All the fruitless Branches

were intirely removed, there can be no want of *bearing* Wood ; and then I think the Two other Things desired, *Fruit* and *Shelter*, will naturally come in of Course. This is what is seldom thought of, or practised : But I lay a *Stress* upon it, and recommend it ; because I am well assured, that the contrary Practice of suffering so *much* Confusion, and so *many* fruitless Branches in a *Vine*, is the very Thing that has discouraged *most* from entertaining any hopes of Success.

Now is the Time to tie up the Shoots of the *Vine* to their Props, or the Espalier recommended above, in Vineyards, leaving only Three or Four of the boldest Shoots. Now also loosen or disengage such Branches of the *Vine*, as will be observed sometimes to be *bound* between the Joints of the Wall, or behind the larger Wood : For without this Care, a young Shoot will frequently snap asunder, and Two (b) good Branches of Grapes will be lost.

At the latter End of this Month begin to Nail the most forward *projecting* Branches of the *Vine*, where Fruit is, *close* to the Wall. And *this* is another Thing not *ordinarily* taken Notice of in any Directions, and therefore 'tis as *generally* neglected : By which Means many Grapes never come to Maturity, but are starved with cold Winds and Dews.

Carefully pick off the peckled Canker, which now so frequently seizes the *Aprecot* especially, and sometimes the *Wall-Cherry*. Both Peaches and *Apreots* are now to be very carefully and discreetly

(b) A vigorous Branch of a *Vine* generally produces Two Bunches of Grapes, and sometimes Three, from several Eyes ; but the Bunch at the first Eye will be ripe soonest, and is commonly largest.

thinned of their *superabundant* Fruit ; for *too many* on a Tree undoubtedly make the *whole* small and *insipid*. This Work is oftentimes done too sparingly and with *Reluctancy* : But it ought to be considered, that one *good* Apricot or Peach is worth Twenty *bad* ones ; and therefore I never leave above Two at most on one Branch. But whereas the Apricot in a hot *Summer*, and on a good Exposition is very apt to eat *Doughy* and *Mealy*, and yet so hard to be *persuaded* to bear on a Dwarf or Standard, I have sometimes try'd in this Month, after Danger was over, to loosen One or Two of the most perpendicular Branches from the Wall, placing a sort of Prop behind it to keep the Branch *projecting*. This answered my Expectation ; for though the Fruit indeed was smaller ; yet it had a much *richer* and more *vinous* Taste.

There is another Operation hitherto little taken Notice of, to be performed the latter End of this Month, *viz.* *Shortening over-luxuriant Branches in all Fruit-Trees, except Vines, to Two Inches of the Place from whence they Shoot.* Winter-Pruning, we know, instead of *taking from*, gives Vigor to a Tree, and makes it shoot the *bolder* : But this Operation, *now*, when Nature is in its full Carriere, gives such a *Damp* and *Check* to its Course, that from the strongest and most vigorous Shoot may be *ordinarily* expected Two or Three smaller Branches of bearing Wood.

N. B. The shortening luxuriant Branches this Month, respects not only such Branches as are intended to be left to fill a void Place ; but indeed all vigorous Shoots made from the Place of *Inoculation* in the Nursery, as well as the *same* made from new planted Trees, especially Apricots and Peaches, which are apt to be in greatest Danger from

from too great Vigor. The same Reason holds as to *plashing* a strong Branch of a Peach or Apricot, that shoots directly forward ; for *that* may now be safely done, and the Branch likewise so disposed, as to fill a void Place with *weak*, and consequently *bearing* Wood.

Now begin the *Summer* Pruning of Pears, cutting off the Shoots of this Year that come forward to half an Inch, taking out the rest in the Middle *entirely*, where they crowd one another : But at the Extremities of the Tree, if there be Room, they may be let alone to the Winter Pruning. (i) All *perpendicular* Shoots in the Middle of the Dwarfs, should this Month be reduced to half an Inch, that they may put forth weaker and bearing Branches.

Weeding ought very carefully to be minded this Month ; but I have observed that Raspberries do rather better *without* that Care ; their Shoots being strong, will make their way through the worst Weeds : and because they require Moisture and Coolness, if the Weeds are not over ramping, they rather do *Good* than *Hurt*. However, Strawberries must be kept very clean, and their Runners taken away during all the Time of their bearing Fruit : Neither is watering in dry Weather to be forgotten.

A careful tender Governor will *now* be visiting daily every Part of his Care ; not only disciplining the *Unruly*, but comforting and encouraging the *Weak*. Accordingly, all new planted Trees are in especial manner to be watched, lest some of them

(i) The *Summer Bon-Crétien* should never feel the Knife but only in this Month, except it be to cut out great Wood *entirely* : Because, if it has Room, it will frequently bear at the Extremities.

pine and languish away for want of *seasonable* Help. Such therefore as are observed to be in a *declining* State, ought to be *sheltered* with Boards and Matts: For though the Sun, that bright and glorious Body of Fire, gives Life and Motion to Vegetable Nature, and is really the greatest Blessing to Plants and Trees; yet those that are *weak* are apt to be overpowered with its *Glory* and *Heat*; and will manifestly shrink and die away upon its too frequent Returns and unguarded Influence.

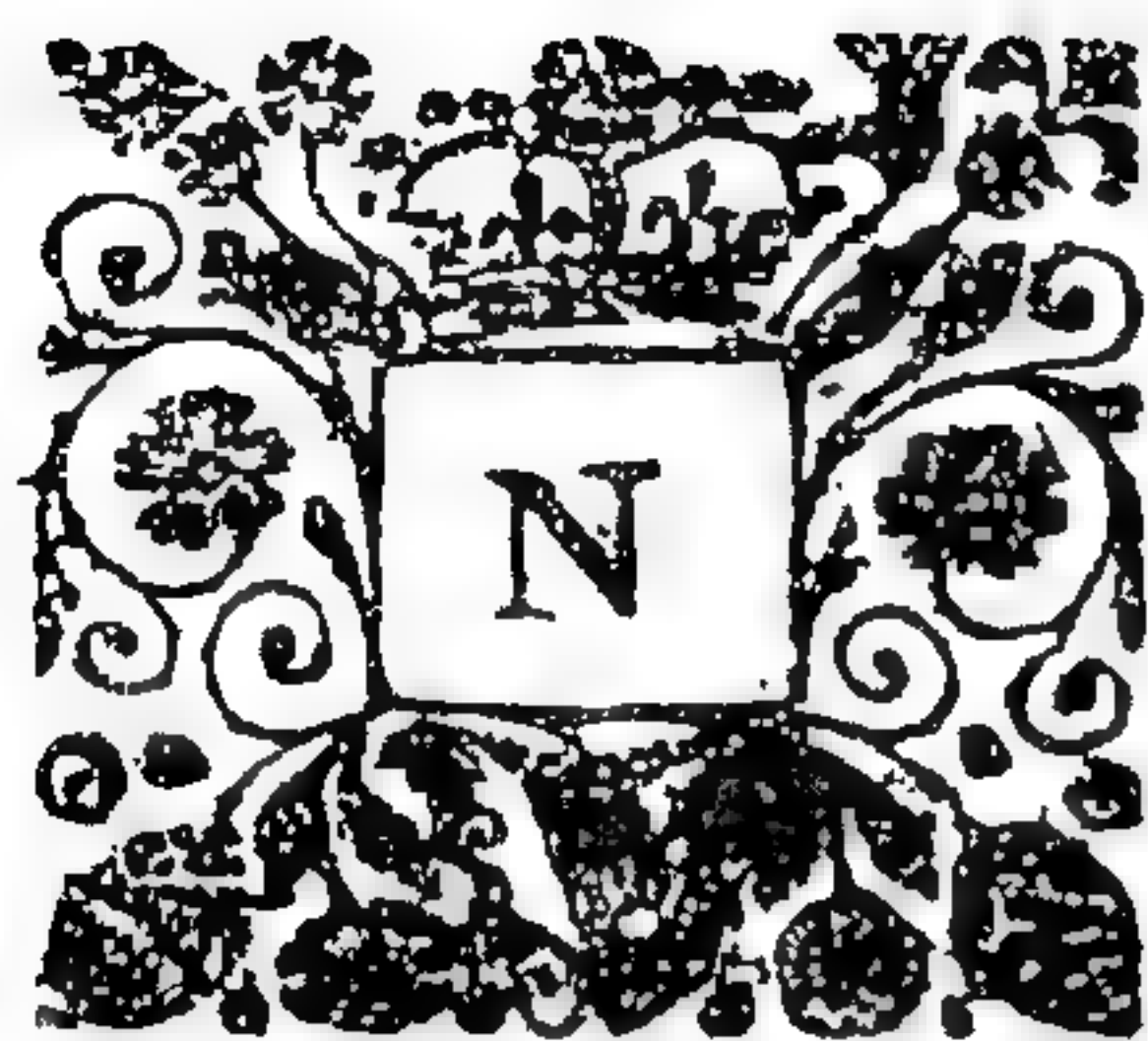
Clip off the Extremities of the Shoots of Gooseberries; for this will in great Measure prevent or kill the Cankerworm, which by laying its Eggs, and breeding there, often destroys the Leaves, and by that means makes the Fruit *insipid*.

Though I am satisfied Ants are not the *real* Enemies to Peach-Trees (*k*), whose Leaves curl up; yet because their Company is otherways very *undesirable*, as they hurt and injure the Roots and smaller Fibres, I would recommend *this* Method for their Destruction. Cut Dew-Worms in small Pieces (*l*), strewing them where the Ants are not troublesome: For to these they will quickly resort in vast Quantities for Food; and there they may as easily be destroyed, by the Help of a watering-Pot of Scalding Water.

(*k*) See Mr. Bradley's Third Part of New Improvements, Pag. 72.

(*l*) See Part I. Pag. 81. The Method of taking them.

J U N E.



OW the luxuriant Growth of Vines must be regarded, and stop-
ped with the first Summer-pru-
ning, short'ning the Branch at the
Second or Third Bud beyond the
Fruit. But in Case a vigorous
Branch is wanted to fill a void Place next Year, 'tis
best to let that particular Branch alone till *October* ;
especially if it has no Fruit upon it.

Continue to Nail, or otherwise fasten, those Bun-
ches of Grapes, which project too much, close to
the Wall ; and take off all unprofitable Shoots, not
before discovered. There is no Danger of Want of
a sufficient Defence for the Grapes ; for the Spring
Shoots and Leaves of the bearing Branches are e-
nough for that purpose.

By the 20th or 24th of this Month you may ex-
pect the Blossom of the Vine to open and discover
the Fruit ; and that Expectation too will be re-
warded with the most *grateful* Smell and *pleasant*
Fragancy : For its full Bloom will perfume the
whole Air thereabout, especially on a hot and Sun-
shiny Day.

Now Peaches, Apricots, and Plums expect their
Summer-Nailing ; and if I add *Pruning*, yet *that*
I suppose chiefly to be done with a View of letting
the Sun come to the Fruit, and of avoiding too
much Confusion : Little Regard therefore need be
had herein to the Crossing of Branches, which will
be rectified in the Winter, when I always love to
find

find Choice enough to serve my Purpose. However, great Care should be had this Month to prune off the Shoots of Peaches, whose Leaves infected by Blights, begin to appear curl'd at the Extremities.

This is the busy Month for Inoculation (*m*) of the aforegoing Fruit; but yet if the Season be excessive hot and dry, it had better be a little longer deferr'd. Now Thyme and Box-Edgings ought to be clipp'd; as also all Sorts of Ever-green Hedges and Pyramids, which add so much Beauty to the Gravel Walks, and indeed to the whole Fruit-Garden; especially in Winter, when all other Plants have lost their Glory and Verdure. But the painted Hollies particularly should this Month be clipp'd, and not later; lest the *weak* Shoots, which they will make after that Operation, be pinch'd and killed by the Autumn Frosts (*n*).

N. B. The Cuttings of Yew being green, are sometimes eagerly devoured by Cattel; but (as I have had sufficient Experience) if it is eaten in any Quantity, it causes *certain* Death, the Stomach not being able to digest it. Now-roll Gravel-Walks after Rain.

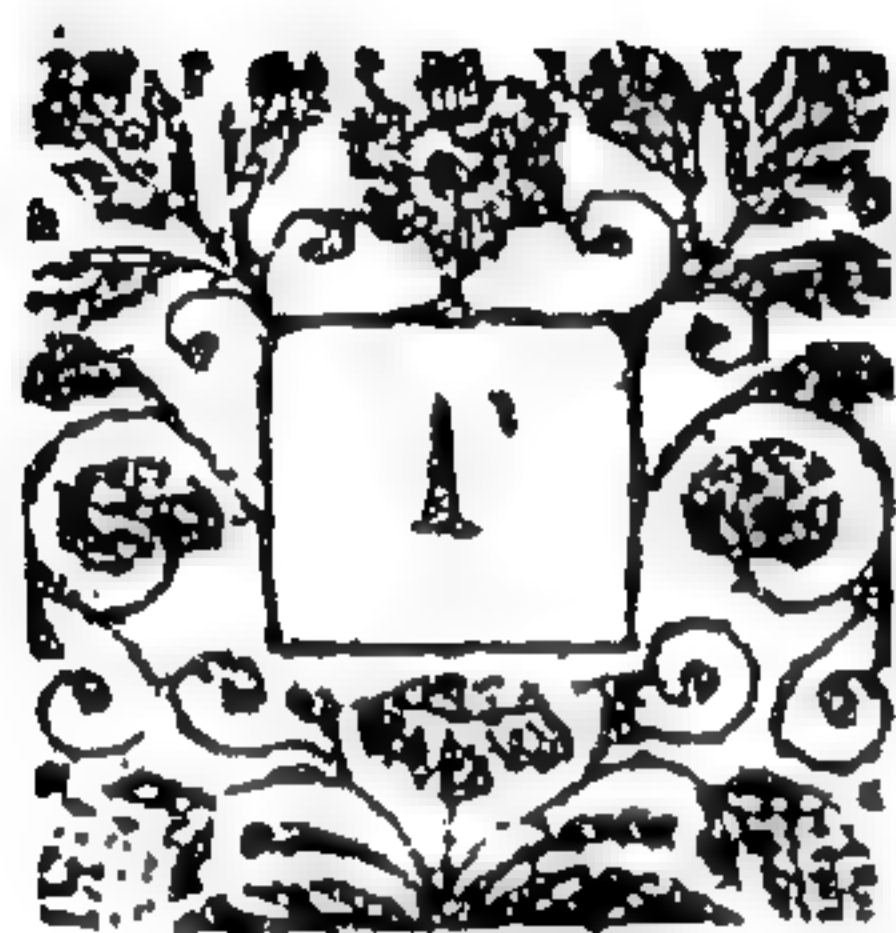
In this and the preceding Month we are rewarded with Cherries. The little early *May-Cherry* is indeed worth nothing; but the *May-Duke* is on all Accounts incomparably the *best*; all others having little Pulp and great Stones. And yet *this* is much better from a Standard than the Wall, being hardy, and a never-failing Bearer.

(*m*) See Part I. Pag. 33. Dub. Edit.

(*n*) The Holly and Yew, though of all others the hardiest Plants, yet their young Shoots, before they are full grown and hardened, are very tender, and impatient of the *least* Frost.

The latter End of this Month the Masculine Appricot is ripe ; which, because it comes in *Early*, is valued by *some*.

J U L Y.



THE parching Heat of the Sun this Month, hinders a Lover of a Garden from stirring much out in the Middle of the Day : But then, how beautiful and refreshing are the Mornings and Evenings of such Days, when the very Air is perfumed with pleasant Odours, and every Thing that presents it self to the Eye, gives fresh Occasion to the devout Admirer, to praise and adore the GREAT CREATOR, who hath given such Wisdom and Power to Man, to diversity Nature in such *various* Instances, and for his own Use, Pleasure, and Profit, to assist her in all her Operations. And if he considers further how the *Vegetable* is made to assist and nourish the *Animal* Life in vast Varieties of numberless *Animals* (o), how can he forbear saying with the *Psalmist*, O Lord, how manifold are thy Works ! in Wisdom hast thou made them all ; the Earth is full of thy Riches.

Now is the Time, when Vines are in their full Strength and Activity, and push with their utmost Vigor ; insomuch that the greatest Contusion imaginable will ensue, if they be neglected and left un-

(o) See Mr. Bradley's Chapter of Elights. Part III.

pruned this Month. For besides the Danger of having the Branches torn from the Wall by the Winds, by reason of the Length and Multitude of their Shoots, as well as the Disadvantage of having the Fruit robb'd of some Part of its Nourishment, the Confusion of Leaves and Branches will be so great, that the Fruit will have little Benefit of the Sun's Beams.

It ought therefore to be carefully taken Notice of, that from a vigorous Shoot of a Vine, already once Pruned, there will push again several *Midsummer* Shoots weaker than the former, from the First, Second, and Third Bud toward the Extremity; which *Secondary* Shoots are to be taken off; only remembering that it is proper *so far* to spare the last of such *Secondary* Shoots, as to leave one Bud upon it, from whence Nature may exert it self a Third Time in *Autumn*. The Reason of which Practice is this, That if those *Secondary* Shoots were all entirely removed, the Vine would push at those *bearing* Buds which lie at the bottom of the aforesaid Shoots: The Effect whereof would be, either the want of Fruit at those Places next Year, or a Necessity of Pruning the Branch shorter than was intended, or is convenient in the Winter.

There is no Danger in exposing the Grapes this Month to the Sun; so that though the Vines appear thin of Leaves and Wood, *that* Fault will soon be recovered and seasonably amended by the *Autumn* Shoots.

Indeed Vines that run high, and bear chiefly out of the Knots of the *old* Wood, are not apt to make so much Confusion, and therefore will be satisfied with a single Winter, and one *Summer*-Pruning: But then that very want of Sap and Vigor to feed so many and such *extended* Branches, is the Reason

why neither *early*, *large*, nor *very good* Grapes can *ordinarily* be expected. *Extraordinary* good Soils and Climates, or *artificial* Heats may do Wonders: But I advise my Friends, and chuse my self to trust altogether to the strongest *young* Wood, (cutting out every Year some of the *old*) in order to procure the best and largest Grapes.

The Vineyard now also must be minded, carefully tying the Fruit-branches to the Props or Espaliers, and diligently removing (either by Pinching or the Knife) all weak and fruitless Shoots.

Aprecots now being disposed to swell and ripen, ought, the very beginning of this Month, to be laid open to the Sun, by removing some of the Leaves, that the Fruit may take its proper Beauty and Colour. *Peaches* the latter End of the Month expect the same Kindness and Care: And if any strong Wood or *Water-Shoots* push from the *Aprecot* or *Peach-Tree* this Month, (except a void Place wants to be filled) they ought to be entirely taken away. But their young short Branches are to be carefully preserved, *Nailing* them to the Wall, but not *short'ning* them. Inoculation may now very safely be continued, after Rain to chuse; Pears, Plums, and Hollies, especially.

Fruit near the Ground, having a double Advantage, may be expected to be large and first ripe; but not if it be too near, so as to be subject to the damp and beating Rains.

The Pear-Tree is now to be minded and *disciplined* too, if over-vigorous, cutting off all Branches still, that push forward, to half an Inch.

Wat'ring plentifully a Peach-Tree full of Fruit, I have found by Experience to be a great Advantage to the *swelling* and *ripening* of the Fruit. Fruit-Trees in Plots are now to be watered Daily, otherwise

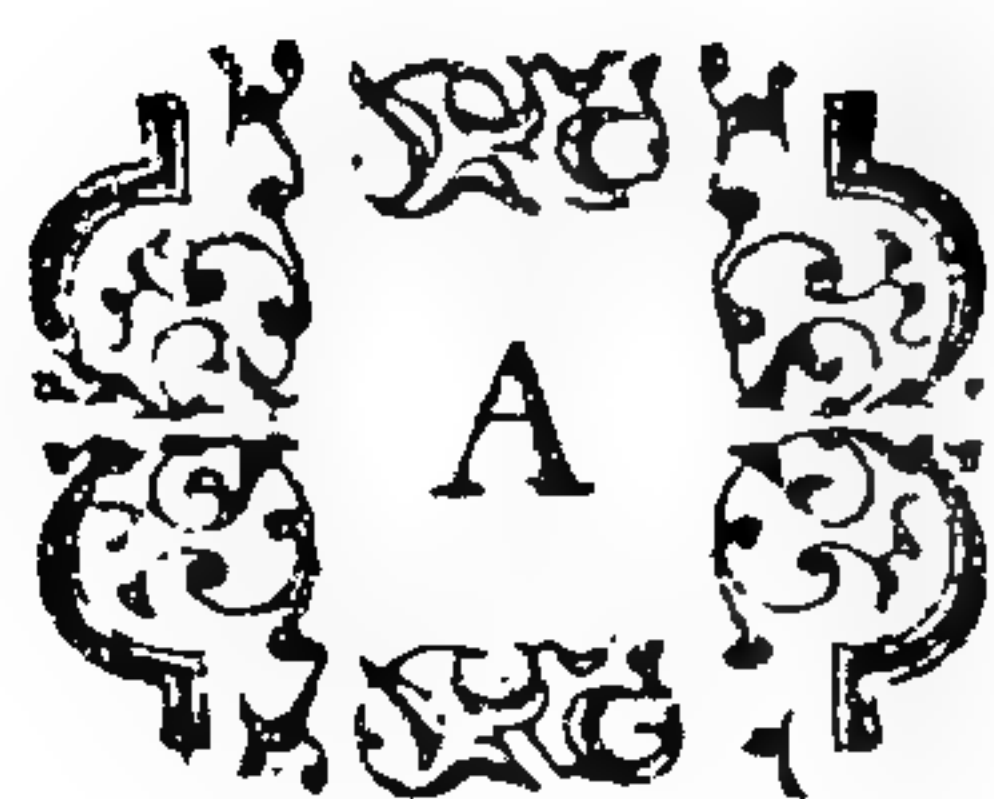
wise the Fruit will drop off; but *with* this Care they will perform Wonders; insomuch that 'tis ordinary for a Nonpareille on a Paradise Stock to bear Fruit, that shall weigh more than the whole Tree, and Earth also contained in the Pot.

Snails, W ips, Flies, Earwigs, and Ants, are the great Enemies this Month to *Aprécots*, and *Peaches*; but especially *Nectarins*; therefore the usual Methods for their Destruction are to be carefully put in Practice. In this and the preceding Month, Weeding and Houghing ought to be diligently minded, that the Borders and Alleys may be kept clean, and the Weeds not suffered to shed their Seed.

The latter End of this Month rewards us with the *Orange*, and some of the best and fairest *Turkey Aprécots*, some of the earliest Plums, as also with the Nutmeg-Peach, which indeed is not worth much; only that it leads us to hope for better. Strawberries yet continue, except the Weather be exceeding dry. I take the Yellow Wood-Strawberry to be much the best, and the best Bearer.

Still remember to roll Gravel Walks well after Rain.

A U G U S T.



Although the chief Beauties of the Flower-Garden, so grateful to the Sight and Smell, begin now to fade; yet many of the choicest and most delicious Fruits, present themselves to the Taste, and become acceptable to the most *learned* Palates. So that indeed the chief Exercises

in

in the Garden are *gathering* the Fruits of those Labours we have bestowed in the Winter and Spring-Seasons. For till now, vegetable Nature, assisted with a diligent and skilful Hand, seems her self to have been *labouring* for the Riches and Products of the Two succeeding Months; when *all* that Heart can wish may be expected, if there be but Skill to chuse well, and Judgment enough to know *how* and *when* to gather.

Some Amusements however there *are* found in this Month to employ a careful *Head* and diligent *Hand*. For this is the chief Time for the *Inoculation* of Pears, Plums, and Hollies.

Now continue the Pruning of those Vines that were neglected the last Month, and keep the Fruit as *close* to the Wall as possible: But be sure to remember now, that the Fruit be discreetly shaded with Leaves, and sufficiently defended against the cold Nights, which will begin to overtake us, the latter End of this Month.

Now the Vineyard begins to suffer, if it have not the benefit of some such *horizontal* Shelters on the top of an Espalier mentioned above, *Page* 17. The Vines are however to be carefully watch'd and visited, that nothing of Shade may be *wanting*, and yet nothing *superfluous*.

Cut down Strawberries this Month, after they have done bearing, close to the Ground, that they may put out new Leaves before Winter.

The beginning of this Month rewarding us with Plenty of Apricots, and the latter End with some of the best Peaches, it will be very proper carefully to review the Purpose of laying them a little *open* to the Sun, to perfect their Ripening, and to give them their *Beauty* as well as true *Richness* of Taste.

All Sorts of hardy Ever-Greens, though they begin

gin to shoot late, yet that *Operation* is performed and perfected in a very little Time : Infomuch that the Sap now making a sort of *Stand*, they may any of them with great Safety be removed the latter End of this Month.

Review the Borders and keep them clean, and at the latter End give them a Stirring, the better to receive the *Autumnal* Rains : No Colliflowers, &c. are therefore to be planted on them. Unbind those *Inoculations* that were performed the last Month, lest the Stock be galled with Swelling ; for in Three or Four Weeks Time the Bud will incorporate.

In gathering *Aprecots*, great Care is to be used, that you do not break the Branch whereon they grow ; because from thence may most probably be expected another bearing Branch the next Year. Neither is the Thumb to be used by way of Trial of Ripeness, because such Bruising makes them rot.

Give the Ever-Green Hedges and Pyramids now a Second Clipping, which in a wet Year especially, they will much want.

I say nothing about the Culture of Melons ; because I suppose that Art to be now *generally* well understood ; not to say that a Melon is more properly to be reckoned amongst the Products of the Kitchen-Garden ; but as far as I have observed, they are not to be expected in greatest Perfection, till the beginning of this Month.

The *Morella* Cherry on a *Northern* Exposition, (for a *Southern* one spoils it) if it be suffered to hang on the Tree, and defended from Birds to the End of this Month, loses a great deal of its *Acidity*, and is a Rich and Noble Fruit to eat.





Toward the latter End of the Month we may expect *first* the White, and *then* the Blue Fig to be ripe ; as well as *both* the *Newington* Peaches, *Mission*,

nion, Nobless, &c. We are also now presented with some of the most excellent Plums, *vis.* the Blue and White *Perdigrans*, the *Sheen* or *Fotheringa*, the *Le-Royal*, the *Roch-Carbon*, the Green *Gage*, the *Muscle*, and the *Orleance*; which last is most excellent for its good Quality of being a constant Bearer, either on a Wall or Dwarf: And if the outward Skin, which retains a Bitterness, be but pared or peeled off, it is an admirable Plum, and liked by most for its grateful *Acidity* and *Sweetness* joined together; especially if too many be not suffered to grow, which would make them flat.

Now also we may expect to taste some of the best *Summer-Pears*: As the *Cuisse-Madam*, the *Orange-Bergamot*, and the *Katherine*.

N. B. If the Stalks of *Asparagus* be this Month now'd down, in a Fortnights Time, or less, a Second *Autumn* Crop may be expected, and *that* also very good; especially if a Shower of Rain happen to fall.

SEPTEMBER.

 Egetable Nature having now made a considerable Stop in its Circulation of Sap,  V  and the Growth of most Trees; and it  being not yet Time to Plant new ones, a Gardener has little else to do, but to turn his *Eyes* and his *Heart* from the *Gift* to the *Giver*. For may I not be suffered to say upon this Occasion, (and I can say it Experimentally) That nothing sweetens the Comforts of Life like Principles of *Religion*? Thankfulness to the Great GOD of Nature
for

for *Fruits* and *Riches* received, and a *moderate* Use of those Blessings, undoubtedly give the truest Relish to all the Pleasures of *Ease* and *Plenty*.

This Month rewards us with what, I think, is confessed by all to be the most delicious Products of our Climate, *ripe Grapes, Peaches, and Nectarines*. The first Article has had the *Misfortune*, through I know not what *Laziness*, or *Despair of Success*, to be very much neglected; though as far as I can learn, *most* are ready enough to own, that those *Three Emphatical Words* of *David* and *Solomon* are rightly apply'd to the *Fruit* as well as the *Juice* of the *Grape*: *Vinum letificat Cor.* † The Two latter are generally as highly esteemed and valued. But because there is less Art required in Pruning and Managing the Trees, they are more ordinarily attained: Though if the Rules for Planting Peaches were more strictly observed (in a bad Soil especially) they would prove much fairer and better Tasted.

And may I not have Leave to add here, and mention that Part of the Harvest which this Month affords, *viz.* the Blue and White Fig? This indeed hath suffered the *Rudeness*, a Proverb upon it from the *Unlearned*: But with those who have received no Prejudice against it, by tasting a *bad* or *unripe* one, it is and will always be accounted one of the most delicious Fruits of the *Autumn*.

All these Rich tasted sweet Fruits, if they would be preserved entire, must now be well-guarded against Wasps and Flies, by hanging up Vials or Bottles of Ale and Honey mix'd.

† Psal. 104. 15. Ecclef. 10. 19. The Caution however of the Prophet, ought not to be forgot, 5. Isa. 11, 12.

The Old *Newington* Peach now presents it self in greatest Beauty and Perfection ; though it is very apt to fall from the Tree before it is quite ripe : But when preserv'd to its true Ripeness, is a Delicacy, not much *known to*, I had *almost* said, not *worthy* of any but the *English* Nation, who know how to make the best Improvements in ART and NATURE, and have happily learnt to overcome, what was once thought *insuperable*, the Difficulty of a bad Climate for *late* Fruits.

But shall I not mention too on this Occasion, the *greater Felicity* we enjoy ; whilst with ART we can bring *Spain* and *Italy* into *England*, and yet separate the *Blessing* from the *Curse* ? We *Taste* the Fruits of their Climate, and yet *see* our selves with Pleasure (I wish it were seen so by ALL) withdrawn from the *Load* and *Tyranny* of their *Ecclesiastical* Government.

The Blue and White *Perdigrans*, those Two incomparable Plums, are also in Perfection the beginning of this Month. The former indeed in some Soils is but a bad Bearer ; not that it is difficult to procure Blossoms, the Effect of the Gardener's Skill ; but because 'tis of so *tender* a Nature, that Blasts and *perpendicular* Frosts do so commonly destroy them : Against which Evil, the *horizontal Shelters* are a secure and admirable Defence.

It is not too late this Month to inoculate *Pears*, which I have oftentimes done with great Success : But forget not to release those Buds inoculated the preceding Month. The latter End of the Month in dry Weather, is the proper Time to gather such *Pears*, as will be ripe in *October*.

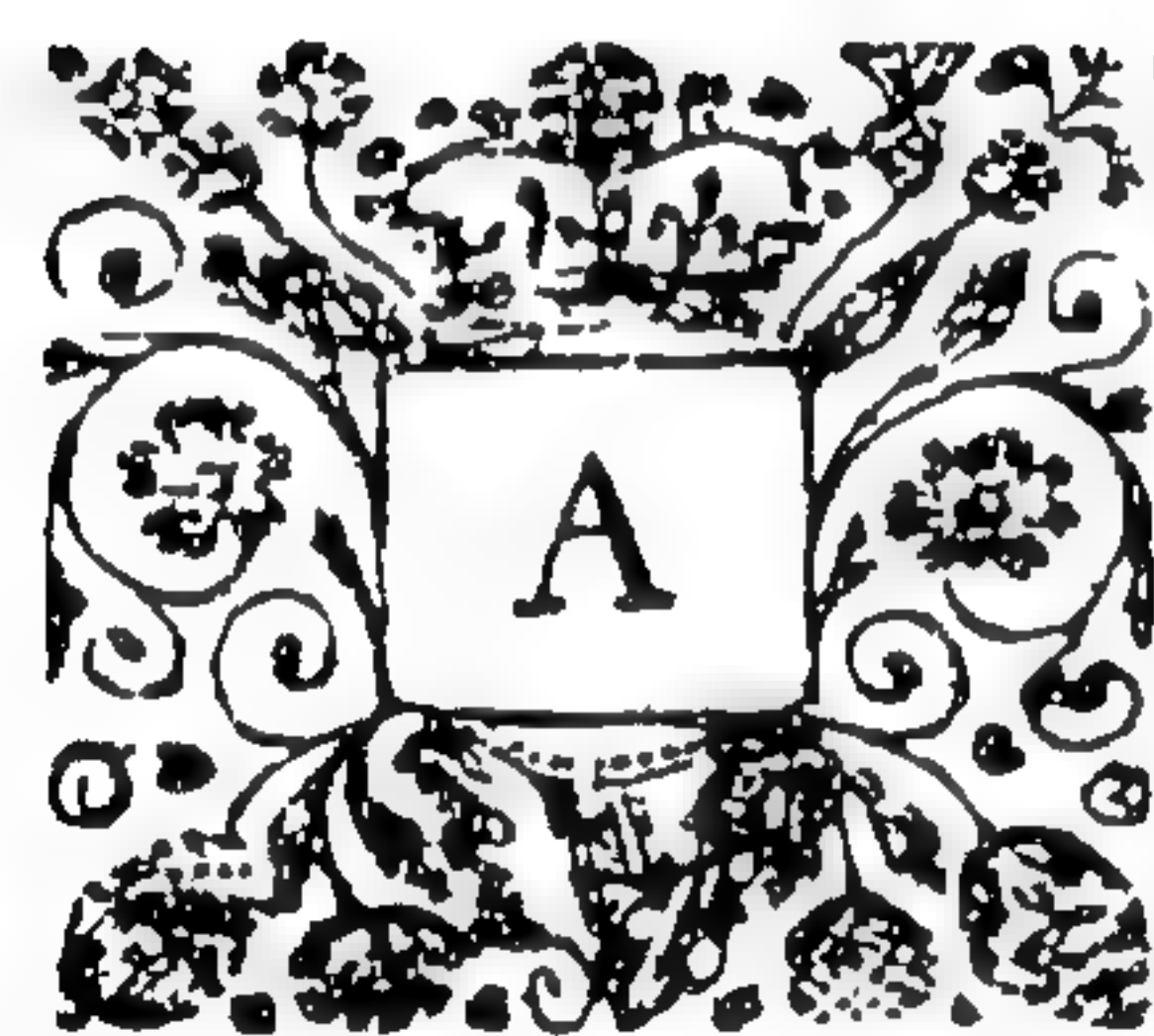
Those which are now ripe from the Tree of most Account, are the *Summer Bon Crétien*, *Hamden's Bergamot*, *Orange Bergamot*, and *Russelet*.

N. B. What-

N. B. Whatsoever the Fruit be that is gathered and tasted this Month, it is of no small Consequence to the Health of every Lover and Admirer of it, that he use the best of his Skill and Judgment to chuse well: For as *bad* and *unripe* Fruit is extremely unwholesome, causing Sicknes, and sometimes untimely Death; so doubtless no Diet is more natural and agreeable to most Stomachs, moderately used, than *good* and *well ripened* Fruits.

Still guard against Wasps, Earwigs, and Ants.

O C T O B E R.



At the same Time, when we are tasting the Fruits of our Industry and Care, we behold also the Ruins and Decays of Vegetable Nature, which now begins to feel the Want of Sun, and shrinks at the Approach of Winter's Cold.

This however is no idle Month to a provident Gardener, who looks before him; that sees either what is *decay'd* and *wanting*, or what will be required to supply Defects for the future. For now is the Time of turning out all idle unprofitable *Subjects* and *Servants*, and putting *Others* in their Room, that may give us better Hopes. Now is the Time, when we are to make all our *new* intended Plantations, and to supply the Defects of the *old*. For which Purpose, too great Diligence and Care cannot be used in preparing the Ground and Borders; because a Mistake *here*, like Errors in

Fundamentals, may prove fatal and dangerous. Therefore, as I have already directed *, to I must again repeat it here, that I know of nothing so natural and agreeable to the whole System of Vegetable Nature in general, as *untry'd Earth* : For, as many *other* Things are best in their *Original* State and *purest* Simplicity, without *Mixture* and *Adulteration* ; so nothing in general is more hurtful and prejudicial to Fruit-Trees than *Dung*. Many Authors, I know, do only recommend a *little Dung* to be mix'd with other prepared Earth : To which I only say, that a *little* doth but a *little Harm* : But according to the Experience I have had, **NONE** is best. Neither indeed is it necessary, that this *Virgin-Earth* shou'd be so very Rich and Fat, as is commonly desired. To the true Purpose of Vegetation in Fruit-Trees, and for answering the End of their Planting, a *Mediocrity* seems most proper and desirable ; because, generally speaking, the greatest Danger is from too great *Prosperity* and *Riches*.

If the Borders are made Four or Five Foot wide, with some of the *best* and *kindest* of this Earth, there will be no need of laying it above one Foot deep, that the Roots may be encouraged to run *horizontally*. For Tap-roots running downwards, commonly produce strong *perpendicular* Shoots upwards ; which in Peaches and Apricots end in Canker, and oftentimes in Death.

So that (as I have above observed) too great Vigor is not desirable in young Trees : And to prevent it, I commonly (except the Soil be exceeding dry indeed) plant on the very top of the Borders

* Part I. Page 4. Dub. Edit.

(a) and lay a Semicircle of good Earth to the Roots, about Two Foot *Diameter*, and Four or Five Inches deep.

For the very same Reason it is not at all material to plant the Tree with the same Exposition to the Sun, which it had in the Nursery, but rather the contrary. And I venture to say, it is less material still to have any Regard to the Age of the Moon, either in *Planting* or *Sowing*. And yet this is a Weakness (or *Superstition* shall I say?) so great a Man as Mr. Evelyn tell into; and I doubt not at all but his *Example* and *Name* drew so many of his *Followers*, and *Copiers* after him into the same Superstitious Error, which is to this Day much rivited in the Minds of the *Vulgar*.

Since this is so busy a Month for *Planting*, there ought to be a good Stock of *untry'd Earth* brought into some By-place in the Garden, to be ready upon all Occasions, both for Ever-Greens, Flowers, and Fruit-Trees. And I must here repeat it, that this is the properest Month of all others for *Planting*, let the Soil be naturally *moist* or *dry*: For if it be subject to *Wet* and *Moisture*, Art must help it, the Borders must be raised, and the Trees planted high: For indeed it is certain Death to Peaches and Apricots, to stand where Water stagnates in Winter. And if it be a *dry warm* Soil, I need not say how much preferable it is in that Case to Plant in *October*, rather than in the *Spring*.

Where *Vines* are to be Planted, it is not desirable to have a Wall above Four or Five Foot high: Neither can I approve of the common way of Planting

(a) See Part II. Page 38. Dub. Edit.

them within Two or Three Yards of one another, or frequently laying down their Branches to take Root, the Consequence whereof is, that the Branches are mounted *Perpendicularly*. I would not chuse to plant *Vines* nearer than Six or Seven Yards asunder: Or if they were Planted thicker, the Overplus should be removed in Four or five Years, that the Branches may have Room to run *horizontally*.

The properest Mixture of Soil for *Vines* is the Rubbish of old Buildings, composed of Lime, Mortar, or Sea-Coal Ashes, or drift Sand; either of these are good mix'd with an equal Quantity of *Natural* rich warm Earth. Make the Borders of this Four or five Foot wide, and only One Foot deep, on a Slope, if possible, descending to the *South*: But still remember that Dung is *Poison*.

Now comes in, if the Year has been any Thing favourable, the Fruit of the Vineyard to reward the Diligence and Labour of the Gardener: But fair and dry Weather ought to be waited for before the Grapes are gathered †.

Now also some of the best Pears, after they have been gathered a Fortnight, are in greatest Perfection. As the *Buree du Roi*, the *Verte-longue*, the *Virgulee*, the *Bergamot*, &c.

In gathering Pears, great Care also must be had to do it in fair Weather, laying them afterward *singly* upon Shelves made on Purpose, in some upper Room or Garret to chuse; but they must be defended in violent Frosts with clean Straw laid over

† Without observing whether *Orion* and *Sirius* be in the *Meridian* or not, and *Arcturus* in the *East* that Morning; as *Hesiod* superstitiously advises, *Lib. 2^d*.

them. Such Pears as ripen not till *Christmas* ; as *Colmars*, *Winter Bon-Crètiens*, &c. may be suffered to hang on the Trees till the latter End of *October* : And some that are curious, will tie Papers over them to preserve them from Frosts, as they hang on the Trees.

N. B. Although the raising and management of *Asparagus* be an Article belonging to the Kitchen-Garden ; and therefore doth not properly come under my present Care and Direction ; yet for the Sake of those who are Lovers of it, (And who are not ?) I cannot forbear to add to the Directions of this Month ; that instead of long Dung so commonly laid on the Beds the Beginning of Winter, give only a small covering of Hen or Pigeon Dung, to loosen and refresh the Earth with its Nitre, which the Winter Rains, with the help of a little stirring now and then, will easily wash in before the Spring, and make the *Asparagus* sprout *readier* and *bolder*.

For it is a great Mistake to fancy *Asparagus* to be a tender Plant : On the contrary, it is one of the hardiest Things a Gardener hath under his Care, and will endure the Severities of the coldest Winters and greatest Frosts, provided the Roots be but covered, as they ought, with a sufficient Quantity of proper Earth.



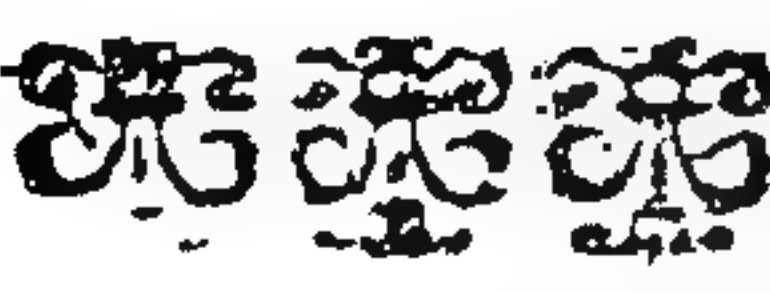
I would add also here upon this Occasion, that this is a more proper Month wherein to plant *Asparagus*, than either *February* or *March*, for the same Reason that is given above for the planting Trees also at this Time, *viz.* That the Roots may get some Strength before the dry Weather comes on.

Without doubt the common Practice of Planting *Asparagus* in the Spring proceeds from the above-mentioned Mistake, *That it is a tender Plant.* But since

since it is known to be of a hardy Nature, and needs not that *unseemly* Litter, which is commonly given it, the tearless Gardener will chuse to plant his Bed in *October*. And if he understand or value true Richness of Taste, he will plant also in *untry'd Earth*, laid only twelve Inches below, and four or five above the natural Surface, instead of *loading* in Dung, which gives it an *unsavoury* Taste.

N. B. This being the chief and best Month for planting Fruit-Trees, and it being of the last Consequence to be assured of good and right Sorts, I cannot but repeat it here for the Sake of the Publick, that it is not *ordinarily* safe to trust to the remote Country Nursery-Men in that Point. There are doubtless many honest Men of that Profession near *London*: But Mr. *Parker* having faithfully served so great a Part of the *Nobility*, *Gentry*, and *Clergy*, throughout *England*, I think my self oblig'd to mention him again with Respect, and as a Person that may be depended upon.

N O V E M B E R.

 N this Month may very *seasonably* and *safely* be carried on the important Concern of planting all Sorts of Fruit-Trees,  I  if that Matter happen to have been neglected or not compleated the last Month. Now begin to nail the tender Branches of Fig-Trees close to the Wall, before the great Frosts come on; but by no means *shorten* the Branches.

You may now begin safely enough to prune Pears and Plums ; especially the Dwarfs, and those on the Espaliers ; the rather, that the Business of *Pruning* may not be crowded into too little Room.

But of all other Works, that which I chiefly reserve to be performed in this Month, is the Pruning of VINES for the Winter ; which yet is to be done with great Judgment and Discretion, if *fair* and *good* Fruit is to be expected. In the Performance of which Work therefore, be sure leave but *few*, and those the *thickest* and *ablest* of the last Year's Branches, taking the smallest *entirely* away from the Place whence they shot : But then the chiefest Art in this Work is so to order the matter, that no Part of the Wall be left *naked* or unfurnished of bearing Wood ; especially not the bottom or lower Part of the Wall ; because *that* is undoubtedly the best ; as having the double Advantage, both of the Wall and the Border, to reflect the Sun's Beams. For which Purpose every Year some of the *old* Wood must be cut down to the Ground, with a View of having *young* Wood to bear Fruit the succeeding Year at the Bottom of the Wall ; laying such Branches as *horizontally* as may be. To accelerate also the ripening of such Fruit near the Ground, it is very proper to *pave* the Borders with coarse broad *Slabs* or *Slats*.

The very ablest Branches of all (of *this last* Year's Wood, I speak) are to be pruned to about Two Foot long, and the rest to about Three, or Four, or Five Buds ; still observing to leave one shorter between two longer : By which means an ingenious Operator may order the Matter so, as that the Fruit may lie at right Distances in all Parts of the Wall pretty equally. But have a great Care of leaving *too many* even of the *larger* Branches : Near a Foot
I
asunder

alunder is, *generally speaking*, enough ; because no other Tree is so apt to fill with Wood and Leaves, and consequently to breed Confusion, as the Vine.

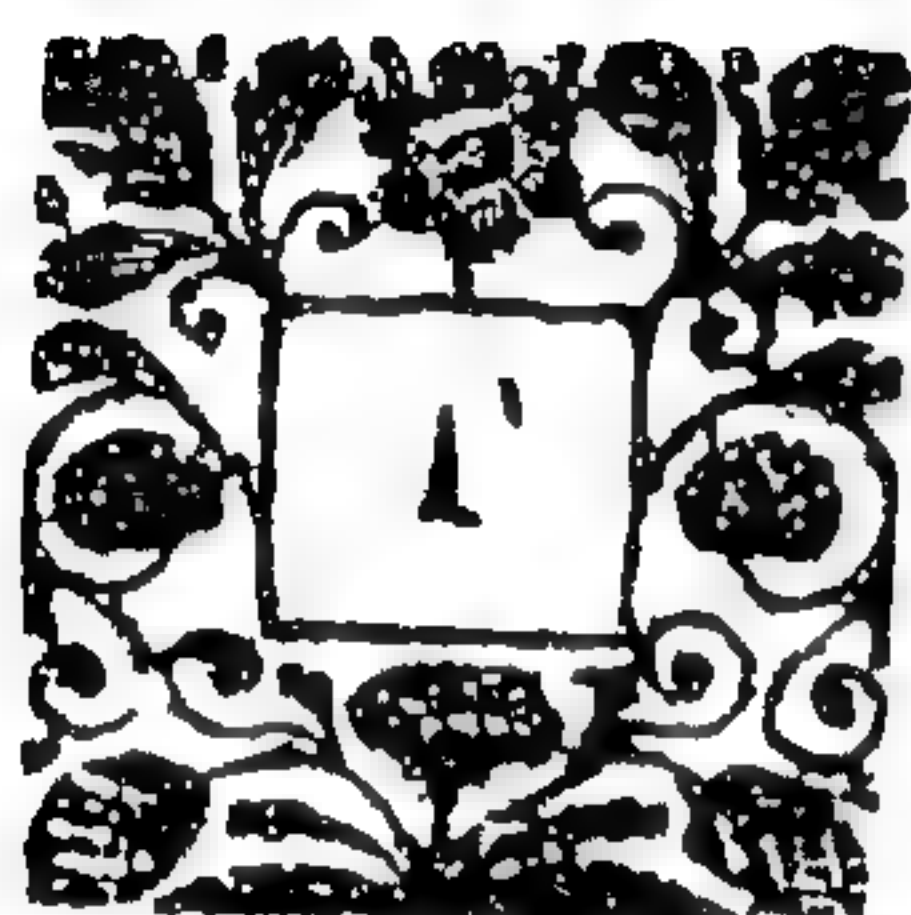
This is so quick a Grower, and makes such *luxuriant* Shoots, that it insensibly, as it were, *steals* away, and *leads* you into one great Error, of leaving the Bottom of the Wall *naked* and *unfurnished* ; therefore I cannot but add here and repeat it, That it is advisable, at every Winter-pruning, to cut away *here and there* a Stem of the old Wood close to the Ground, from whence may assuredly be expected bearing Wood for the following Year near the Ground, provided only two or three Buds of such Shoots be left.

This and the preceding Month (not excluding *February* and *March*) may be thought a proper Time to make Nurseries for Stocks of all Sorts of Fruit-Trees ; either by Planting of the best Plum-Suckers ; *viz.* The white Pear-Plum, or *Bonum magnum*, or Muscle ; or by sowing of the proper Stones and Kernels, whereon to raise Peaches and Aprecots, Pears and Apples. Almonds and Peach-Stones may do well enough for Stocks for Peaches in a rich Sand or Gravel ; but the Experiment would be hazardous in a strong wet Soil.

You cannot easily chuse or make the Soil of your Nursery for Wall-Trees too rich ; because the more vigorous the Stock is, the more *easily* and *surely* the Enoculation takes : And when they are removed from the Nursery into Borders *not so rich*, any Objection raised from thence proceeds from want of *Knowledge* and *Experience*. Healthful Trees, from whence soever they come, cannot fail to grow in *untry'd Earth* ; and too great Vigor at first planting is (as I have already observed, and I am willing to repeat it) no desirable Circumstance.

The best Pears now in Perfection are the *St. Germain*, *la Chasserece*, the *Ambret*, the *Colmar*, the *Crassan*, and the *Swan's Egg*, from a Dwarf; for a Wall, at least a good Wall, spoils it.

DECEMBER.



HIS being a Month when the Juices in Plants and Trees are most of all at rest, and the cold Frosts have robb'd every Thing but Winter Greens of its remaining Glory, there is little left for a Lover of a Fruit-Garden to perform, except (when the Season will permit) the continuing those Works which were left unfinished the preceding Month.

But there is one Thing, which should not be forgot to be spoke of, because it is of some Consequence; *viz* That the common Practice of turning up Gravel Walks in Ridges this Month is certainly *wrong*. For besides the being deprived of the Benefit of them all the Winter, which to a Man of Exercise is no small Discouragement, it really doth not answer the End of the Practice, but rather the contrary. Turning the Walks up in Ridges kills indeed the present Weeds; but for the very same Reason that the Husbandman stirs and tills his Land to enrich and fertilize it, so this turning and ridging of Walks, is (as Reason teaches) a real *Tillage*, and adds *Fertility* to them, to the great future Increase of Weeds and Grass. If therefore constant Rolling after Rains and Frost will not effectually kill the

Moss and Weeds of some Sorts of Gravel-Walks, the best Way, if they must be turned, is to stay till *April*, when they may be turned and laid down again at the same Time.

The Recess which this Month affords, gives also an Opportunity to the inquisitive Naturalist to make use of his Microscope (*a*) within Doors; whereby he is assisted to discover those numberless Eggs of little Animals, lodg'd in the Root, the Bark, the Leaves, and tender Branches of Trees. These being the devouring Enemies of vegetable Nature, and the Cause of many of those Blights (*b*) which bring Grief and Disappointment to the most industrious, he first *discovers*, and then *destroys* them in their Embrio's.

Having thus *agreeably*, and (as I hope) not *unprofitably* conducted the ingenious Operator in a Fruit-Garden thro' the several Months in the Year; having shewn him in the most familiar Manner, and in the *Order of Time*, when and how he is to employ himself, so as to gain a Succession of *Pleasure* as well as *Fruit*. I cannot leave him better employ'd than in his Devotion and Acknowledgments to that GREAT and bountiful PARENT of universal GOOD, who * *gives us richly all Things to enjoy*, and who || *crowns the Year with his Goodness*.

(*a*) These Microscopes are accurately made and contrived, with incomparable Apparatus, by the ingenious Mr. Culpeper, at the *Cross-Dangers*, under the *Royal Exchange*; who grinds the Glasses to the greatest Perfection, and curiously adapts them to the Purposes both of Use and Entertainment.

(*b*) See the Nature of these Blights describ'd at large by the ingenious Mr. Bradley in his Chapter of Blights, Part 3.

* 1 Tim. 6. 17.

|| Psalm 65. 11.

And how happy may we suppose that Man to be, who being thus annually rewarded with Profit and Pleasure, can despise all the faint Images of Honour, and other trifling Scenes of Mirth, which leave an Emptiness in the Soul, that nothing but a good Conscience and true Devotion can fill? And happier still, if Innocence and Courage can get above the *common* Load of Injamy and Detraction; wisely considering that the more of real Worth and true Sincerity in doing good any one discovers, the more he will be subject to the false Representation and Censure of those who are otherwise disposed.

Having thus, I say, *safely* and *honourably* conducted the ingenious Gardener from the one End of the Year to ~~the~~ other, I am very willing *in this Respect* to leave him as I found him, sole Monarch over his obedient Subjects, and King in his own Kingdom: Or, as a divine Poet describes such a happy Person,

*Lord of himself, accountable to None,
Like the first Man in Paradise alone.*

Norris Miscel.

I have thought fit to subjoin hereto, the two following Letters concerning Blights, for the Sake of the curious Remarks contained in the Second of them, which the ingenious Mr. Bradley was pleased to oblige me with.

Dear

Dear Sir,

“ **R** eading over your ingenious Chapter of Blights
“ put me upon examining the Cause and
“ Consequence of an untoward Blight some of my
“ best Pear-Trees met with this Summer in *June*,
“ when the Fruit was near as big as a Wallnut.
“ That you may the better judge and give me
“ your Opinion of it, I have here enclosed one or
“ two of the Leaves and a small Twig of the Bu-
“ ree-Pear, infected. A Hail-Storm in *June* was
“ certainly the beginning of it. *That* bruising the
“ Leaves (as I apprehend) occasioned immediately
“ a Yellowness on the Fore-side, and a Tumour (as
“ you see) some Time after on the back-Side of the
“ Leaf. Finding the sad Consequence of this Blast
“ to end in the Loss of all my Fruit on those Trees
“ (for the Pears all fell off in a few Weeks) I have
“ now been gathering up some of the Leaves, and
“ finding many Orifices in the several Protuberances,
“ I began to conclude there must be some Animals
“ or Eggs contained there. Accordingly I opened
“ the Bunches and found several Cells full of a Sort
“ of a small Dust, which I presently examined
“ with my Microscope, and soon found to be (as I
“ expected) Heaps of Eggs manifestly transparent.
“ When these Eggs were laid, and what Animals
“ might have lodged there during the Summer, I
“ cannot say for want of Observation; but I am
“ not a little apprehensive of the Consequences of
“ this next Summer; and would therefore gladly
“ have your Opinion; because I cannot find that
“ you have yet mentioned this Case.

“ I

KALENDAR.

63

“ I will only just trouble you further to say that
“ I have a Buree Pear-Tree not far from this, which
“ happened to be well guarded with horizontal
“ Shelters ; and *that* suffered not the least Injury,
“ but bare me some of the finest Fruit I ever
“ had.

“ I shall be proud of all Opportunities of seeing
“ you ; and I hope you will take the Freedom I
“ now use as an Instance of the great Value and
“ Esteem preserved for you by

S I R,

*Your most affectionate Friend, and
obliged humble Servant,*

J. Lawrence.

Yelvertoft, Nov.

30. 1717.

P. S. *The Peaches, &c. were not hurt :
None but Pears blasted.*

*To Mr. Richard Bradley,
at Kensington, These.*

Dear Sir,

Camden-House, Jan. 25. 1717.

“ **I** Received your kind Letter with a great deal
“ of Satisfaction, having long wished for
“ some favourable Opportunity, that might give
“ me the Happiness of Corresponding with you.
“ My Time of late has been much taken up with
“ Variety of Business, so that I could not sooner
“ return you Thanks for your Favour to me, or
“ send you my Thoughts concerning the Blight up-
“ on

“ on your Pear-Trees : But I rely upon your Good-
“ nefs to excufe me this Omission, and for the Future
“ shall endeavour to be a more punctual Correspon-
“ dent.

“ The Leaves and Branch of the Pear-Tree,
“ which accompany'd your Letter, are blighted in
“ such a Manner as I have not yet observed any
“ Pear-Trees in these Parts, but 'tis plain the Pro-
“ tuberances on the Back of the Leaves, are the
“ Cells or Nests where some Insects have left their
“ Eggs, some of the Eggs yet remaining in them,
“ which plainly appear by the Help of a Micro-
“ scope ; but what kind of Creatures those Eggs
“ may produce, I am not able to guess, unless
“ you'll allow me to compare this Blight of the
“ Pear-Tree with that of the Black Poplar, which
“ though the Natures of the Trees are different,
“ yet the Manner of the Blight in each of them is
“ nearly the same ; *i. e.* on the Back of the Leaves,
“ and in the Bark of the Young Shoots ; so that
“ 'tis likely, the Insects bred in the one and the o-
“ ther Sort of these Trees, are of the same Tribe,
“ tho' not strictly of the same Figure ; and then we
“ shall find them to be of the *Ichneumon* Kind, as
“ the Draught I have here given will plainly shew.



“ The curious Hints in your Letter which inform
 “ me, that this Blight was preceded by a Hail
 “ Storm, which bruised the Leaves of the suffering
 “ Pears, and set forth that another Pear-Tree which
 “ happened to be defended from the Hail by *Horizontal*
 “ *Shelters*, escaped the Blight : These Hints,
 “ I say, give me room to add one more Excellency
 “ to your ingenious Contrivance of Shelters, than
 “ you have mentioned in your Book ; *viz.* The
 “ guarding our Fruit from the Violence of Summer
 “ Storms ; which plainly, from the Instance now
 “ before us, are not less pernicious, than Frosts or o-
 “ ther such destructive Accidents in the Winter. But
 “ the Peaches you observe were not hurt ; perhaps
 “ because the Leaves of those Trees are weak and
 “ hang down ; whereas the Leaves of the Pear-Tree
 “ are bold and stubborn, and are thereby more ca-
 “ pable of resisting the Hail, than the tender Peach
 “ Leaves, and so were more bruised than the other
 “ Trees, which more easily give way.

“ To examine this Case a little further, it seems
 “ to me from the swelling of the Bark, that this
 “ Blight did not proceed from Eggs of Insects brought
 “ there immediately by *Easterly* Winds, and lodged
 “ on the outward Parts of the Plants, but rather
 “ from the Eggs of some Creatures, which were at
 “ that Time floating or circulating with the Juices in
 “ the Vessels of the Trees, which meeting with the
 “ stagnating Juice in the wounded or bruised Parts,
 “ were brought to Life ; for all Insects, as they are
 “ of different Kinds, have respectively proper Places
 “ where they lay their Eggs to be enlivened ; and
 “ those Places I always observe are actually in a State
 “ of Putrefaction ; so that it seems as if the putrid
 “ Juices of Bodies, either Animal or Vegetable, were

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“ essential

“ essential to give Life to the Eggs of Insects, and
 “ nourish their Young.

“ I believe it will not be difficult to conceive how
 “ the Eggs of some small Insects may pass through
 “ the Vessels of Plants, when we consider their ex-
 “ ceeding Smallness ; for many Kinds which I have
 “ examined with Microscopes, do not singly fill
 “ more Space than one Tenth Part of the Orifice of
 “ a Wood Vessel of a Tree, so that they might pass
 “ in Crowds through such Pipes without Interrupti-
 “ on ; and the Pores and Vessels of the Roots of
 “ Trees are still larger than those in the Trunk, and
 “ as capable of receiving them as they are of taking
 “ in their proper Nourishment from the Earth.

“ I am of Opinion, that most Kinds of Plants
 “ have continually the Eggs of some Sort of Insect
 “ or other circulating with their Sap, which cannot
 “ be enlivened as long as the Plants are in Health,
 “ and the Sap full of Spirits, but only when they
 “ meet with some wounded or decay'd Part, where
 “ the Juices begin to corrupt, but we may better
 “ judge of this by some of the following Observa-
 “ tions.

“ The first Discovery I made of this Kind was in
 “ the Colly-Flower, which began to shew several
 “ white Swellings upon its Leaves, after a Hail-
 “ Storm and high Wind which had bruised its Parts ;
 “ some of these Swellings I opened soon after they
 “ appeared, and took out some Myriads of Eggs
 “ like white Dust from between the outward cover-
 “ ing of the Leaf, and the more fleshy Part Five
 “ Days after the first Appearance of the white
 “ Blisters, the whole Plant was covered with very
 “ small greenish Flies, which the Gardeners here
 “ call *Mill-dew* : Upon Examination of Two or
 “ Three Plants, which I cut to Pieces, I found se-
 “ veral

“veral Vessels wounded and broken by Worms
 “whose Passages I could trace along some Part of
 “the Stem, from the Root upwards towards the
 “Leaves, and great Numbers of Eggs lying in se-
 “veral Clusters together. The Worms which I
 “mention, I believe laid their Eggs in the Leaves,
 “after they had been bruised by the Hail, and those
 “that were unhatch’d in the Vessel of the Stem, I
 “suppose wanted proper Juices to hatch them, the
 “Hail not being capable of bruising so hard a Body
 “as the Stem was.

“In Cucumbers and Melons this Case is frequent :
 “The Eggs, and even the Insects themselves, are
 “often convey’d through the Vessels of those Plants
 “into the Fruit, and there hatch and come forth,
 “when either the Fruit or Branches are bruised e-
 “nough to cause a Stagnation of their Juices.

“This Year some Branches of the *Bruxelles* Apri-
 “cots were infected the same Way which caused
 “Swellings on some bruised Parts of the Bark, that
 “after some Time burst open and discovered great
 “Numbers of very small white Insects, without
 “Wings. In all these Cases I endeavour’d to search
 “for some Places where the Insects had made their
 “Incisions on the out-side of the Plants, through
 “which they might convey their Eggs to the inner
 “Parts, but could find none with the most diligent
 “Enquiry.

“In the Hazel-Nut we frequently find in May
 “several Buds which swell to the Bigness of a Horse
 “Bean, without opening into Leaves. They some-
 “what resemble a Nut with its green Husk ; but
 “upon examining them with a Microscope, I find
 “their Contents to consist of broken sponge-like
 “Parts, with Multitudes of small white Worms
 “feeding upon them.

“ I conceive these internal Distempers of Plants
 “ may be chiefly owing to the Use of impure Dungs
 “ and Manures, or unwholesome Earths, which ge-
 “ nerally harbour vast Numbers of Insects and their
 “ Eggs, and are apt to injure the Roots of such
 “ Plants as lye near them; for the Plants which I
 “ find suffer most in this Way, are Melons, Cucum-
 “ bers, and such others as are chiefly forwarded with
 “ Dungs : But where Cucumbers have the Benefit
 “ only of fresh or Virgin Earth without corrupted
 “ Mixtures, the Fruit is much fairer and in greater
 “ plenty than what the Hot-bed will afford us.

“ The best Remedy I can prescribe for this Evil,
 “ is the Use of Quicksilver ; as I have hinted in my
 “ Chapter of Blights ; for nothing is more destructive
 “ to living Creatures than the Fumes of *Mercury*,
 “ which is set in Motion, and made to emit its poi-
 “ sonous Vapour by a very small Heat, far less than
 “ that of the Sun in *April*, which puts the Sap in
 “ Motion ; and was it my Case to have Trees inju-
 “ red, as those are which you make mention of, I
 “ would certainly remove the Earth, which is now
 “ about their Roots from them, and give them a
 “ fresh Supply ; for I am apt to believe there are
 “ many Eggs yet remaining in it : But all this I sub-
 “ mit to your far better Judgment, and am, with
 “ the most sincere Respect,

S I R,

Your most Affectionate Friend,
and Obligated Humble Servant,

RICHARD BRADLEY.

To the Reverend Mr. Lawrence,
at Yelvertoft, Northamptonshire.



A N

APPENDIX.

Of the Usefulness of the BAROMETER, with some short Directions how to make a right Judgment of the Weather from the Rising and Falling of the Quicksilver.

IF there is any Regard to be had to the received Opinion and common Expectation of Mankind, a Kalendar is supposed to be a very imperfect Thing without some Observations or Prognosticks relating to the Weather. Accordingly there is no Question to be made, but *Astrological Predictions* were invented and introduced by *cunning* Men to raise their own Credit and Reputation amongst the Vulgar, as knowing how to impose upon their Credulity, and humour their *eager* and *forward* Desires of *prying* into future Events.

Howsoever therefore I may abhor any such wicked Design ; yet I shall *so far* humour the Custom and Expectation of the World, as to say something upon that Head, that may be of *real* Use and Service ; especially to all Lovers of a Garden. For to such it may easily be supposed to be a very desirable Thing, when a considerable Plantation is to be made (to say nothing of other Cates) to have a *reasonable Assurance* of a kind Season to perform such an impor-

important Work in. And yet this *reasonable* Assurance cannot be had any Way, I am satisfied, *so well* as by making exact and judicious Observations of the Motions of the Mercury in the Weather-Glass.

I confess I the rather engage in this Matter, because the Reputation of the Barometer hath suffered much from the Ignorance or injudicious Observers. The Philosophical Reason of the Mercury's rising and falling, I shall not here meddle with; because *that* is made intelligible enough by the new Philosophy of *Gravitation* upon the Principles of the GREAT Sir *Isaac Newton*. What I have to offer, is built upon *Fact* and *Experience*; and let the Reasons and Causes assigned be never so different, the *Experience* is the same: Such Events and Consequences always following such FACTS. *This* is what I build upon, as being the *safest* and the *readiest* Way to come at useful Truths.

As to any Observations of the Weather with respect to the several Changes of the Moon, I have, I confess, none that can be depended upon; because indeed I am pretty sure, that neither *Full* nor *Change* have of themselves any constant Influence upon the Weather.

The more general and received Opinion of the World is, I own, against me in this Particular: But *Facts* are stubborn Things, and will at last confute the greatest Superstition*, which yet (as far as

* As far as I have observed, most of the foolish and absurd Notions that have obtained amongst the Vulgar, are owing to the Superstitions of Popery, the great Support of Ignorance and Error. A Tincture of which is seen to this Day amongst many of the Farmers, who will not be persuaded to kill their Hogs, nor cut their Hair, except the Moon be in the *Increase*.

I can learn) hath been the chief Support of the common received Notion, or *Monkish* Jingle of

*Quarta Dies quinta qualis,
Tota Luna ferè talis.*

Or indeed of any other constant Variation of the Weather from the different Phases of the Moon.

The certain and regular Influence of the Moon on our Earth with respect to Tides, is without doubt that which gives the greatest Countenance to the received Opinion of the Changes of Weather depending also thereupon. But the *Phænomenon* of Tides will be of no Use in this Case, except it could be proved, either by Reason or Fact, that a *greater* or *less* Attraction of the Atmosphere, a nearer or remoter Distance of the Moon will naturally produce Driness or Moisture, or at least cause such Winds, as may have those certain and regular Effects. But I am satisfied neither of these can be proved either by *Reason* or *Fact*.

We know nothing is more uncertain than the Weather ; *uncertain*, even to a Proverb : And yet the Theory of the Moon is now brought to that Certainty and Exactness, that our great Astronomers, Sir *Isaac Newton*, Dr. *Halley*, Mr. *Whiston*, and Mr. *Flamsted*, (as we have lately found) can calculate Eclipses, and their total Darkness to a few Seconds. . But do any of those great Men pretend to say, whether it shall be *fair* or *foul*, *cloudy* or *clear* ; or in what Quarter the Wind shall be at any of those Times, or at the common New and Full Moons ? No, they are well aware, that those Things depend upon more hidden Causes than the Conjunctions and Oppositions of Planets, or the Motions of other *inanimate* Bodies at a Distance from us.

I con-

I confess, were the Theory of *Comets* fully understood, their *Revolutions* and *Numbers* adjusted, something of Certainty, with respect to Driness and Moisture of the Air, might *occasionally* be depended upon, either in their Ascent to or Descent from the Sun, and their Approach to our Earth. But as that Knowledge, though vastly improved, is yet very imperfect : As the Number of Comets, and their tedious Revolutions, will not suffer us to expect any frequent Approaches to us, we can at present make little other Use of that Part of Astronomy, than to see with Astonishment and Wonder, that the *All-wise* G O D, the Great Geometrician, who sees from one End of the Creation to the other, may make use of those Bodies to bring about the Ends of his Providence, by rewarding and punishing the several Orders of Beings, which he hath placed as Inhabitants of these lower Worlds.

As the Case therefore stands, any Judgment to be made of the Weather from the Motion of the Planets, is very *uncertain*. I confess, I had rather know the History of the Inhabitants of this Air, their Leader, their Government and Power : I had rather know the Extent of Dominion *given* to the *Prince of the Power of the Air*, his Jurisdiction and Limits, than the fullest Account of all the Four great Empires, so much renowned in Story, put together : To be sure, much rather than all the *absurd* Schemes and Calculations of the boldest *Astrologers*, big with hard Words and pompous Nonsense ; whereby they have *hitherto* deluded and abused the credulous Populace, and weaker Part of Mankind.

In short then, since the Variety of Weather is not to be accounted for by any *certain* natural Causes, or *at least* not by any fix'd Laws of the
Motion

Motion of Heavenly Bodies ; but should seem rather to depend upon the Will and Power of *voluntary* Agents, or upon such a Conjunction or Coincidence of Causes, as *we* can in no wise foresee or calculate, how desirable is it to be furnished with such an Instrument, as shall point out to us all the Dispositions in the Air to *Dryness* or *Moisture*, and tell us (from what Cause soever it happen) what Sort of Weather we may expect, *fair* or *foul*, and from what Quarter. Which Knowledge is yet oftentimes of the last Consequence to us, with respect both to our Traffick and Business, as well as to our Diversions and our Healths.

I will not, *I dare not* say the Barometer is *always* a certain and *infallible* Guide ; but I *venture* to say, the *better* we understand its Motions, and the more nice Observations we make of the Variation of the Wind and Weather thereupon, the *less* liable we shall be to be deceived on all Occasions.

It is undoubtedly the best *Guide* we have ; and a *Guide* ought, and will not fail to be treated with Respect, so long as *Modesty* is preserved ; so long as *absolute* Power and *uncontroulable* Dominion are not pretended to. If we are led by this Help to the Use of our Reason, and to compare *Facts* and *Testimonies* together, in order to form a *right* and *wise* Judgment, Who would desire to be under better Circumstances ? For thus an approaching Blessing may be view'd with Pleasure ; and Evil at a Distance seen, in order to escape it.

The Substance then of what I would say here upon this Occasion is this : Since the Invention of the Barometer is of that real Use to Mankind, when rightly and thoroughly understood, I purpose to free it from the Prejudices and Disadvantages it hath lain under, from the *false* and *hasty* Conclu-
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sions

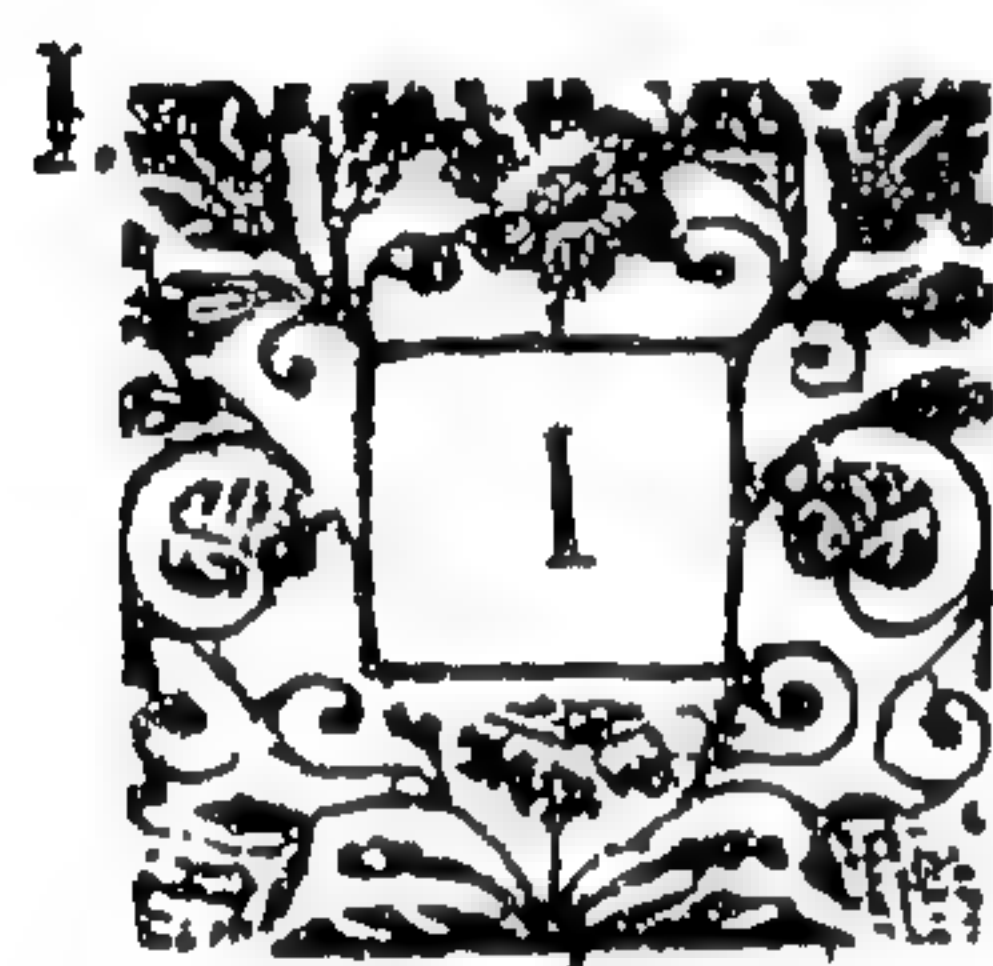
sions of the Ignorant, by laying before the Reader some plain, easy and familiar Rules, founded (not upon uncertain Reasonings, but) upon *Facts*, and those supported by the Experience of many Years Observations.

They are indeed but few, in Comparison of what might have been added ; but I chose at present to insert only such, as might most of all be depended on, leaving the Subject to be improved and enlarged on by other Ingenious Observers, and curious Collectors of *Facts* relating to this Science.

It is not very material to take any particular Notice of the several *Sorts* of Barometers ; because the *Reason* and *Use* of them All are the *same*, for measuring the Weight of the Air or Atmosphere ; and consequently for presignifying the several subsequent Alterations therein. But yet because some of them do point out with greater Nicety and Exactness all the little *Risings* and *Fallings* of the Quicksilver, it may not be amiss to say, that several of the late invented Barometers are excellently contrived to entertain those who are curious in this Matter. Such as the Wheel-Barometer ; the Pendent Barometer, and the Diagonal one. All the several *Sorts* of them have been much improved, and are now made and sold by that great Master in Natural Philosophy the Ingenious Mr. *Hauskbee* in *Granc-Court, Fleet-street*.

OBSERVATIONS.

The Three First Preliminary Rules are as follow.



I. If the *Mercury* in the Weather-Glass rise, it will be *fair* ; if it fall, it will be *Rain* or *Snow* ; always taking in this Supposition, *stante Cardine* ; because oftentimes *Rain* coming out of the *South* is driven back by a sudden Change of the Wind : And on the contrary, dry Weather out of the *North*, is of a sudden changed by *Rain* out of the *South*. The Wind therefore is always much to be regarded, together with the *Rising* or *Falling* of the *Mercury*, if a right Judgment would be made of the Weather.

II. The Place *from whence* the *Mercury* either rises or falls is not to be regarded ; but only how *much* or how *fast* it either rises or falls.

III. A *Convex* Superficies of the *Mercury*, shews a *Disposition* to rising, and a *Concave* Superficies the Contrary.

Some more particular Rules and Observations are as follow.

1. **A** Still Air, clear Sky, and the *Mercury* falling, with a frosty Morning in *October* and *November*, should make you depend upon Rain or Snow succeeding; especially if the Wind be in any Point of the *South*.
2. A very sudden and hasty Rising of the *Mercury* after Rain, is generally a Sign of more Rain succeeding in a few Days, if the Wind be in any Point of the *South*.
3. A compleat Circle or Halo at a Distance from the Body of the Moon (especially if the *Mercury* fall) is, I think, a never-failing Sign of Rain or Snow.
4. The Wind full *South*, and the *Mercury* falling, is another never-failing Sign of Rain. *Stante Cardine.*
5. After the Fall of much Rain, the *Mercury* not rising much, or continuing low, the Wind in any Point of the *South*, tho' a fair and clear Sky, *stante Cardine*, expect more --- *ne insidiis cæli capiare sereni.*
6. The Wind changing into any Point of the *North* after Rain, with a clear or dry Sky, the *Mercury* rising, is a sure Sign of fair Weather.

7. A Continuance of fair Weather, Wind *North*, Mercury high or rising, is never succeeded by Rain, till the Wind change into some Point of the *South*.

8. A Continuation of Rain from the *South* is, I think, never succeeded with settled fair Weather, till the *Mercury* rise much, and the Wind turn into the *West*, or some Point of the *North*.

9. A seeming Failure of Truth in the Barometer, is, that sometimes in Winter, the Wind *North* and the *Mercury* high, a deep Snow may fall without any Alteration in the Weather-Glass; But then that is only an Indication of very low Clouds, and a clear Atmosphere above; the Consequence whereof is a settled clear Air, and frosty Weather succeeding.

10. A red Sky in the Morning, with a sudden cloudy Air, the *Mercury* sinking, or but standing with a *Concave* Superficies, is a sure Indication of Rain or Snow that very Day.

11. Heavy Rains attended with Storm, Thunder, and Lightning, are commonly the Consequence of a sudden Falling of the *Mercury* in Summer, especially if the Wind be *South*, and the Air hot.

12. If the Wind be in any Point of the *North*, and the *Mercury* fall, expect Rain; and if the *Mercury* continue to fall, expect a great deal.

13. If after Rain in the *South*, the Wind change, (as it commonly doth) into the *West*, or some Point of the *North*, the *Mercury* rising, and yet Rain falling, it may be concluded, that there will be but a *little* Rain.

14. When

14. When the *Mercury* falls *much* in fair Weather, and continues so to do, for Two or Three Days before Rain comes, high Winds and a *great deal* of Wet may be expected.

15. It is remarkable that most of the common and usual Signs of Rain, during the Season of Dog-days, fail; and therefore are not to be regarded, while the *Mercury* continues high.

16. When Rain follows *immediately* upon the falling of the *Mercury*, *much* Rain need not be feared.

N. B. The *Mercury* will fall for a Thaw, tho' it is not attended with Rain, if the Wind change from the *North* to any Point of the *South*; because a Thaw is always attended with a warm Mist and a very moist Air.

F I N I S.

THE
Lady's Recreation :

OR,

The THIRD and Last Part

Of the

ART OF GARDENING Improv'd.

Containing,

- I. The FLOWER-GARDEN ; shewing the best Ways of propagating all Sorts of *Flowers*, *Flower-Trees*, and *Shrubs* ; with exact Directions for their *Preservation* and *Culture* in all Particulars.
- II. The most commodious Methods of erecting *Conservatories*, *Green-Houses* and *Orangeries* ; with the *Culture* and *Management* of *Exoticks*, *Fine-Greens*, *Ever-Greens*, &c.
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- IV. Mr. JOHN EVELYN'S *Kalendarium Hortense*, methodically reduc'd : Interspers'd with many useful Additions.

By CHARLES EVELYN, Esq;

To which are added,
Some curious Observations concerning *Variegated Greens*,
by the Reverend Mr. LAURENCE.

London Printed ; And Reprinted in Dublin,
for G. Grierson, at the Two Bibles in Essex-
street, 1717.

1945-1946

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The Preface.

I H A V E been some Years in making the Observations here communicated to the Publick; and tho' a few of them may seem to interfere with what has been already advanc'd by other Authors, I hope this Treatise will not therefore suffer in its Reputation, since every Man's Experience is his own. And thus much I can safely say in behalf of this Performance; That there is no one Head upon which I have treated, without something New; and through the whole will be found several Improvements.

I have nothing to say either of the Usefulness or Entertainment of Works of this Nature. Those Topics having been judiciously handled by Mr. *Laurence*, in his two excellent Treatises, make a long Preface in this Place entirely unnecessa-

ry : But I think it incumbent upon me to advertise the Publick, That before I committed these Papers to the Press, I communicated my Intentions to Mr. *Laurence* ; which he approv'd, with so much Candour, that I am at a loss how to express sufficiently my Gratitude for so great a Favour. This Gentleman was so kind as to declare himself *highly pleas'd with my Design, as what he had long wish'd might be undertaken ; and that the Specimen I had given him of my Manner of Writing, made him hope I should answer the Expectations of the World in that other Part of Gardening, equally Entertaining, and much wanted, relating to Flowers, Green-Houses, &c.* For which, and other Encouragements, not thought fit here to be mention'd, I refer the Reader to his Letters inserted at the End of this Work.

T H I S is all I have to observe by way of Preface, relating to this small
Under-

P R E F A C E.

Undertaking : But I cannot conclude without taking notice of the Ignorance and Arrogance of a late * *Author* ; who, because (as he tells the World) he has a larger Garden than Mr. *Laurence*, thinks he has therefore a larger share of Experience. In his Preface he attempts to find Fault with Mr. *Laurence's* Method for erecting *Fruit-Walls* with *Horizontal Shelters*, mention'd in his *Second Part* ; which he would insinuate to be contradictory to the Directions offer'd in his *First Part*. This seeming Mistake charg'd upon Mr. *Laurence*, happens to be a real One on the Side of Squire *Collins* ; for he does not consider that equal mischief is done by *Blasting Winds*, as by *Nipping-Frosts* ; and that particular Measures (as directed by Mr. *Laurence*) are necessary for guarding against both the one and the other.

T H I S pretended *Retriever* of *Paradice*, by endeavouring to find Fault

* One that has publish'd a Tract, call'd *Paradice Retriev'd*.

P R E F A C E.

with Mr. *Laurence's Second Part*, stands corrected in many Particulars by his *First*. And tho' in his Preface he thinks himself a compleat Master of the Subject he has undertaken, yet his Book sufficiently evidences, that he is a mere Novice ; for which I appeal to all judicious and impartial Gardeners. Indeed Mr. *Laurence* has no Observations relating to the training up of common *Hedge Plums*, (which were beautiful Trees in *Paradice*, no doubt) but he has more noble Speculations : And however he may have *singly* preach'd People into an Approbation of his Book, (meaning, I suppose the *Divine Contemplations* interspers'd) yet the Squire and his *hundred* brib'd *Gardeners* cannot influence the Publick with an Opinion of his *Trifle* ; and notwithstanding he has depos'd the † *Parson* and all his *Brethren*, they will live and flourish, when his *Paradice* is turn'd into a *Desart*.

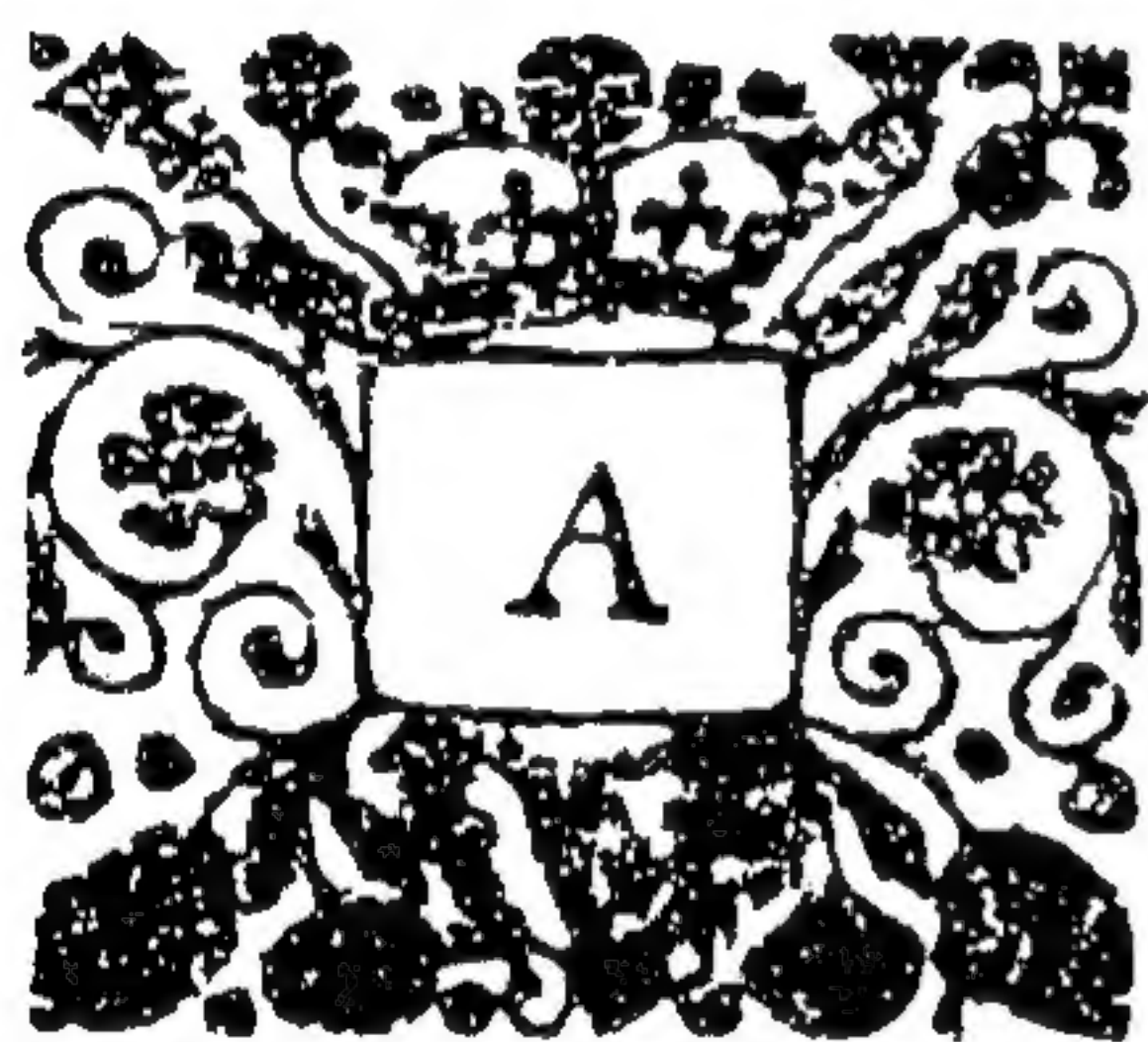
† A Word Squire Collins is very fond of.

T H E

Lady's Recreation ;

Being a THIRD PART of the Art
of GARDENING, *Improv'd.*

The INTRODUCTION.



AS the curious Part of *Gardening* in general, has been always an Amusement cholen by the greatest of Men, for the unbending of their Thoughts, and to retire from the World ; so the Management of the Flower-Garden in particular, is oftentimes the Diversion of the Ladies, where the Gardens are not very extensive, and the Inspection thereof doth not take up too much of their Time. And as an Encouragement to the fair Sex, in this most pleasant and agreeable Employment, a certain Lady of the first Quality, who had a Soul above her Title, Sense beyond what is common in her Sex, and Greatness and good Nature so agreeably mix'd, as to leave few Equals behind her †, thought it no Diminution to concern her

† *The late Dutchess Dowager of Beaufort.*